

LAKE VICTORIA BASIN COMMISSION

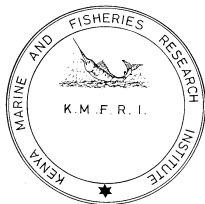


TRANSBOUNDARY WATER FOR BIODIVERSITY AND HUMAN HEALTH IN THE MARA RIVER BASIN (TWBH-MRB) PROJECT

STRENGTHENING COMMUNITY BASED NATURAL RESOURCES MANAGEMENT IN THE MAASAI MARA - SERENGETI ECOSYSTEM



FINAL REPORT



KENYA MARINE AND
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This study could not have been realized without USAID and LVBC identifying the important roles played by CBNRM groups in resource management and organizing the funding for this exercise.

LIST OF ACRONYMS

ACC	African Conservation Centre
AWF	African Wildlife Foundation
CAT	Capacity Assessment Tool
CBC	Community Based Conservation
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CBOs	Community Based Organizations
CCS	Community Conservation Service
CFA	Community Forest Association
CITES	Convention on International Trade in Endangered Species
CORPs	Community Resource Persons
CWS	Community Wildlife Services
FGDs	Focus Group Discussions
FZS	Frankfurt Zoological Society
GIS	Geographical Information Systems
IFAW	International Fund for Animal Welfare
ILRI	International Livestock Research Institute
ITK	Indigenous Traditional Knowledge
IUCN	International Union for Conservation of Nature
KARI	Kenya Agricultural Research Institute
KEFRI	Kenya Forestry Research Institute
KFS	Kenya Forest Service
KIIs	Key Informant Interviews
KMFRI	Kenya Marine & Fisheries Research Institute
KWS	Kenya Wildlife Service
LIPs	Locally Influential Persons
LVBC	Lake Victoria Basin Commission
LVDP	Lake Victoria Development Programme
M & E	Monitoring and Evaluation
MMNR	Maasai Mara National Reserve
MRB	Mara River Basin
MRTWUF	Mara-River Transboundary Water Resource User's Forum
MSE	Mara - Serengeti Ecosystem
NBI	Nile Basin Initiative
NGOs	Non-Governmental Organizations
NEMA	National Environment Management Authority
NMK	National Museums of Kenya
NRM	Natural Resource Management
NTFPs	Non-Timber Forest Products
RESAPP	Regional Environmental and Sustainable Agricultural Productivity Programme
SNP	Serengeti National Park
SPSS	Statistical Package for Social Sciences
SNV	Netherlands Development Organization
SWOT	Strengths, Weaknesses, Opportunities and Threats
TANAPA	Tanzania National Park Authority
TNRF	Tanzania Natural Resource Forum
ToR	Terms of Reference

TWRI	Tanzania Wildlife Research Institute
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA	United States of America
USAID	United States Agency for International Development
WCMC	World Conservation Monitoring Centre
WD	Wildlife Division
WRUAs	Water Resource Users' Associations
WMAs	Wildlife Management Areas
WWF	World Wildlife Fund

EXECUTIVE SUMMARY

This consultancy was undertaken by the Kenya Marine and Fisheries Research Institute (KMFRI) for Lake Victoria Basin Commission (LVBC), with a goal of preparing a basis for strengthening of Community Based Natural Resource Management groups (CBNRM) in the Maasai Mara - Serengeti Ecosystem (MSE). The specific objectives were: to conduct an inventory and SWOT analysis of CBNRM groups; prepare guidelines for engagement of CBNRM groups (in Wildlife Management Areas and Conservancies); and to identify and document for replication CBNRM best practices. The core natural resources considered in this study were in the sectors of forestry, wildlife and water resources. In addition, other natural resources considered were bee keeping, eco-tourism, fisheries, mining and agriculture. Other institutions involved in the consultancy were Maseno University, Kenya Agricultural Research Institute (KARI) and Kenya Forestry Research Institute (KEFRI), all based in Kenya, and Tanzania Wildlife Research Institute (TWRI) based in Arusha, Tanzania.

Methods used in this study involved literature reviews and field surveys carried out from 15th to 21st August 2010 in the MSE. A structured questionnaire was used to obtain primary data. Pre-determined Focus Group Discussion (FGD) question guide with relevant themes and sub-themes was administered to Locally Influential Persons (LIPs) and key informants. SWOT analysis was conducted on the groups and beneficiaries. Finally, an assessment was carried out on capacities and training gaps of the various groups.

An inventory of the CBNRM groups revealed a total of 26 active groups involved in water resources management with 8 groups located in Mara and 18 groups located in Serengeti. With regard to eco-tourism groups, a total of 24 active groups were identified within the MSE, with Mara hosting 22 groups and Serengeti having 2 groups. In wildlife conservation, a total of 12 groups were identified with 11 in the Mara and 1 in Serengeti. Forestry sector had 22 groups of which 17 were located in Mara and 5 in Serengeti. Bee keeping had 4 groups which were all based in Mara. Under landuse, there were 9 groups all based in Mara. In the energy sector, there were 3 groups of which 2 were in Mara and 1 in Serengeti. In mining, 2 groups were identified in Mara and 1 group in Serengeti.

An analysis of the CBNRM groups revealed that the levels of education for most officials was primary school education (45.8%) or no formal education (8.3%) indicating that traditional systems played a major role in management of natural resources. Results further revealed that CBNRM groups within the MSE faced a wide range of challenges. In forest management the main challenges were limited knowledge (66.7%) and ownership (33.3%). In water resources, poor water quality, inadequate quantity and knowledge on how to improve the management strategy and degradation of catchment areas were cited as the main challenges. In wildlife resources, human-wildlife conflict (54.5%) was the main challenge while fire outbreaks (25%) posed the least threat. The main policy constraints facing the CBNRM groups within the MSE were: that the existing policies on natural resources management were not widely accepted (41.7%); lack of specific policy implementers (21.4%); lack of power to enforce the policies (21.4%); and conflicting policy intentions (46.7%).

SWOT analysis on the existing CBNRM groups within the MSE revealed that most groups in the MSE have a legal mandate (87.5% registered) with elaborate constitutions and have a monitoring and evaluation system in place (93.3%). The main weaknesses identified include weak financial base with a heavy dependence on donor funding, inadequate information on key policies, laws, bylaws and regulations. The major opportunities include a diversity of abundant natural resources, available land-use options, rich cultural and social environment, improved collaboration with the government and private sector, improved social security and welfare. There are also opportunities in international conventions and treaties. The main threats are global warming/ climate change, diseases and epidemics,

competition in resource utilization, conflicting sectoral policies and laws, group sustainability, poverty and environmental degradation.

The main capacity building needs within the MSE are sensitization on natural resource management best practices; management skills in book-keeping and preparation of management plans; training in Participatory Rapid Assessment (PRA) techniques; training on livelihood skills and sensitization on policies, laws, legislations and village by-laws.

Within the MSE some CBNRM groups manifested best practices in the following areas: benefit sharing with improved socio-economic benefits, had governance structures in place, had manifested behavioral change and put measures in place to protect the environment. One of the CBNRM groups which embraced best practices is the Kolong Cultural Village in Mara which had developed programmes in biogas production from cow dung, tree seedling nursery and was also constructing a borehole for water supply besides their ecotourism activities. The second group is Olare – Orok Motorogi Conservancy also in Mara which had taken up projects in making hay-dung briquettes to supply local communities with alternative energy sources. In addition, it had initiated outreach programmes e.g. Koyiaki Guiding School which trains Game Rangers and Tour Guides as well as projects in water, health, roads and bursaries for needy children. Though new, the Mara North Conservancy has initiated programmes that directly benefit the communities, while Olalui Community Forest Association (CFA) and Dupoto have successful projects in tree planting and forest conservation within the Transmara District of Kenya. Within the Serengeti ecosystem, the Ikona WMA practiced good governance with well laid out benefit sharing mechanisms and equity. Robanda Joint Venture Association manages village land through a committee with a wide range of benefits to the community. Finally, the Kikundi cha walezi watoto yatima na mazingira magumu, Kinesi-Serengeti embraced issues of environmental management through use of solar jikos, organic farming, fish farming and brick making using local materials without use of wood for curing by drying the bricks in the sun besides their normal programme of tree planting.

The formation process and functions of a trans-boundary NRM committee is proposed, taking into consideration variation of policies and approaches especially in wildlife management. This study proposes the formation of a CBNRM network for conservancies and WMAs. The network will tackle transboundary issues related to wildlife e.g poaching, migration of wildlife, management regimes and fires.

Transboundary guidelines for engagement of WMAs and Conservancies have been prepared and entail the guiding principles of CBNRMs such as benefit sharing arrangements, the size of group that can better manage the resource and the decision making process.

The main recommendations from this study for strengthening existing CBNRM groups are:

- Support CBNRM groups in creating networks at trans-boundary level on NRM issues to enhance sharing of information and experiences on best practices.
- Carry out training/clinic workshops for CBNRM groups to improve their skills on good management practices including financial and administrative management, conflict resolution mechanism, entrepreneurship, negotiation skills, fund raising and benefit sharing.
- Conduct sensitization sessions to raise awareness on the significance of environmental conservation and sustainable resource utilization.
- Explore best practices from successful stories, locally, regionally and internationally through study tours.
- Sensitize CBNRM groups on the principles and importance of cost sharing (needs and advantages) through the contribution of more resources (cash and in kind) to various services (e.g. monitoring and enforcement) that are essential for the long term sustainability of natural resource management efforts.

- Strengthen Indigenous Traditional Knowledge (ITK) practices and encourage the adoption of new technologies in NRM.

CHAPTER 1: INTRODUCTION

1.1 Description of the ecosystem

The Mara - Serengeti Ecosystem (MSE) is a transboundary resource that covers an area of 25,000 km² stretching from Kenya into Tanzania (Thirgood *et. al.* 2004). The core areas comprise the Maasai Mara National Reserve (MMNR) and Serengeti National Park (SNP). In these core areas only wildlife tourism is permitted. The Mara River Basin in relation to the MSE is shown in Fig.1.1.

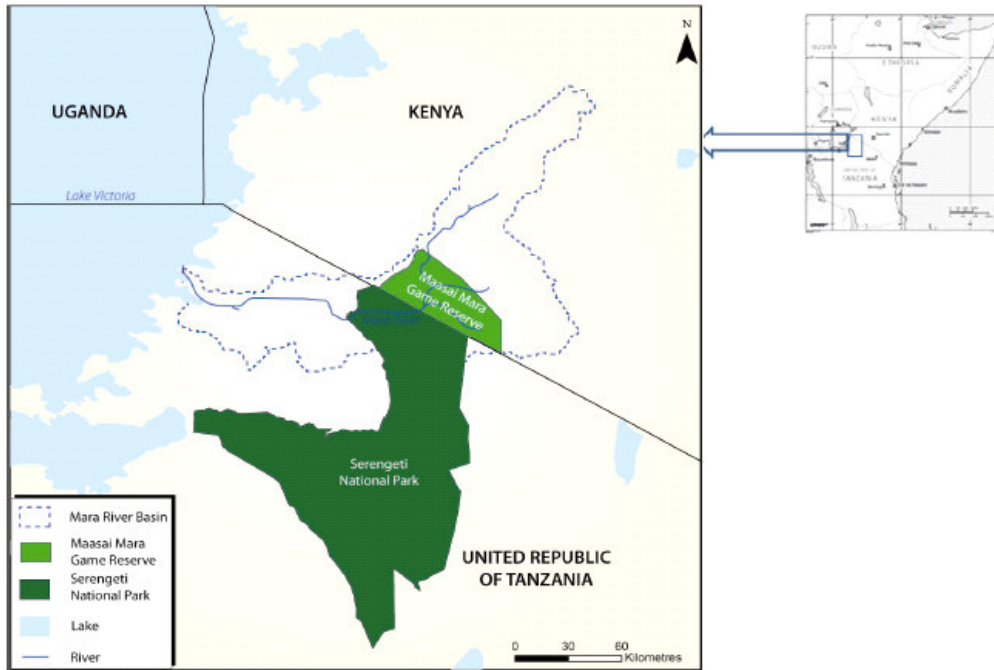


Figure 1.1: Map of the transboundary Mara River Basin showing part of the Mara - Serengeti ecosystem under the Mara Basin (Source: UNEP (2009), “Kenya: Atlas of Our Changing Environment”)

The entire area comprising the MMNR is within the Mara River Basin (MRB; area 13,750 km²) but only 35 % of the SNP is found in the basin. The basin receives rainfall with mean values varying from 1400 mm per year on the highlands, to 600 mm per year on the plains. The rains occur between the months of March – May (long rains) and August –October (short rains). River Mara drains the Maasai Mara - Serengeti ecosystem. River Mara originates from the Mau forest complex in Kenya and flows through the districts of Serengeti, Tarime, Rorya, Musoma rural and Musoma Urban in Tanzania. The river’s inlet into Lake Victoria is just north of Musoma town. The Mara River catchment is essential to the Serengeti-Maasai Mara wildlife ecosystem.

The Maasai Mara - Serengeti ecosystem can be categorized into three major habitats, namely, the aquatic riverine forests, the river and the grassland savannah.

Maasai Mara is located in the south western Kenya and is the northern continuation of the Serengeti National Park. It covers 1,510 km². It borders the Serengeti Park to the south, the Siria escarpment to the west and Maasai pastoral ranches to the north, east and west. The Maasai group ranches include Koiyaki, Lemek, Ol Choro Oiroua, Olkinyei, Siana, Maji moto, Naikara, Ol Derkesi, Kerinkani, Oloirien and Kimintet. The Talek and Mara are the major rivers draining the Maasai Mara ecosystem. Shrubs and trees fringe most drainage lines and cover hill slopes and hill tops of the catchment. The terrain of the reserve is primarily open grassland with seasonal rivers and lakes. The Serengeti ecosystem covers an area of 14,763 km² of grassland plains and savannah as well as riverine forests and woodland. The ecosystem lies to the north of Tanzania where it is continuous with the Maasai Mara ecosystem. To the south of Serengeti National Park is the Ngorongoro conservation area. To the south west lies the Maswa Game reserve and to the western borders are Ikorongo and Grumeti Game Reserves. To the north east lies the Loliondo game control area. The Serengeti National Park has many rivers flowing through it, permanent and seasonal, including the Seronera, Mara, Grumeti and Orangi.

1.2 Importance of the ecosystem

The MSE is recognised by world conservationists and is categorised by UNESCO as a World Heritage Site. The ecosystem is recognised for its importance as a wildbeest migration route (Figure 1.2), home to the big cats of the savannah and ecotourism. The main wildlife species found in the ecosystem are the big cats (lion, cheetah and leopard). The annual migration of game especially the Zebra, Thompson's gazelle and the wildbeest from the Serengeti every year from July to October has been classified as the 8th wonder of the world. Apart from the protected areas, communal lands within the ecosystem also form part of the migratory route for the animals (Figure 1.3). The river provides important ecosystem services to the wildlife and communities (1.1 million people with a growth rate of 2.7%), residing in the river catchment through supply of water for domestic use, agricultural irrigation and production of fish. The catchment is also a source of herbs for various uses, medicinal plant species, genetic pool for biodiversity, breeding site for birds as well as fishes at the confluence point and enhancement to microclimate within the catchment area.

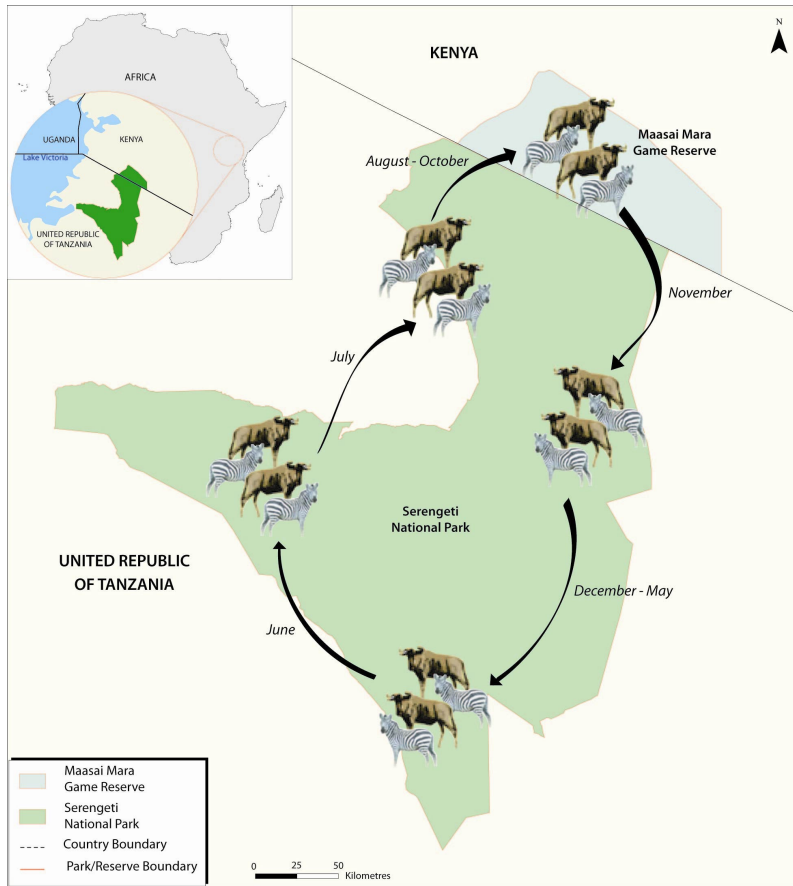


Figure 1.2: Temporal migration cycle of the three major animals viz Wildebeasts, Thompson’s gazelle and Zebras in the MSE. Source: UNEP (2009), “Kenya: Atlas of Our Changing Environment.”

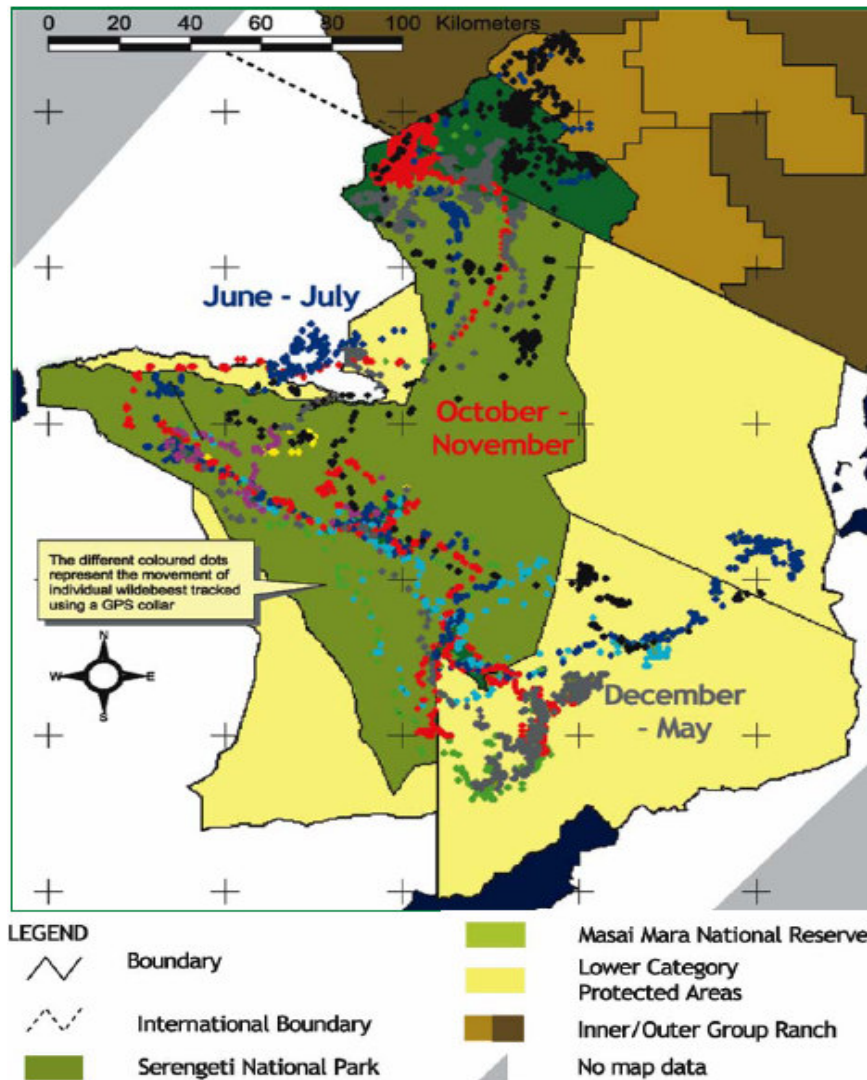


Figure 1.3: Periodic migratory patterns of wildlife within the MSE showing spillovers to community lands. (Source: Serengeti National Park General Management Plan 2006 – 2016)

1.3 Activities within the ecosystem

The ecosystem is characterized by a diversity of land use patterns ranging from natural and agro-forests in the upper reaches to large scale mechanized farms, infrastructure development, small-holder subsistence farms, human settlements, communal pastoral grazing lands and animal parks in the open savannah. Other activities that affect the MSE are commercial charcoal making, brick making, livestock rearing in a free-range system, hunting, ariculture, fishing and small scale mining.

1.4 Threats

The natural resource base in the Mara River Basin has particularly deteriorated due to poor farming practices. Farmers in the densely populated areas along the watershed have limited knowledge of sustainable agricultural land use practices. The unsustainable use of natural resources has resulted in pressure on the Mara River catchment ecosystem in both Kenya and Tanzania which threatens the present and future survival of communities through its negative impact on water quality and quantity as well as the current micro-climate and biodiversity in the area. The variability of the climate on water

flow is impacting negatively on the downstream households, whose livelihoods, depend on the exploitation of natural resources along the watershed.

The other major threats facing the ecosystem are deforestation resulting from encroachment and human settlements in the upstream Mau forest areas. Human-wildlife conflict resulting from large-scale farming extended into wildlife corridors is also identified as a key threat. Declining water quality and quantity due to poor agricultural practices in Mau-Narok, and excessive water abstractions has had negative impacts on the ecosystem. Pollution is also due to unregulated waste water discharges especially in urban settlements, mining activities, poor sanitation facilities and excessive use of agrochemicals for pests and disease control in crops and livestock. The increased intensity and frequency of floods and drought due to land use change and climate variability is a manifestation of anthropogenic interference on the ecosystem. Inadequate coordination of natural resource planning and management due to lack of a comprehensive co-operative framework for the management of the basin's natural resources needs to be corrected. The above issues are exacerbated by weak and poorly enforced laws and regulations and institutions with inadequate technical and financial capacity to monitor and ensure compliance with the set standards and regulations.

1.5 Policies

The governments of the Republic of Kenya and the United Republic of Tanzania often make statements on their intentions and strategy needs of their countries in various policy documents. These documents include the National Development Plans and for Kenya, the 'National Poverty Eradication Plan-1999-2015' and most recently Vision 2030. Management policies for all regional parks, game reserves and ranches indicate that while all parks are directly managed by the government the MMNR and Mara Conservancy are under Local government jurisdiction. According to Thirgood *et.al.* (2004), there is need to develop more community run management areas as additional buffer zones around the parks to enhance conservation of wildlife. Due to eminent threats on wildlife and other closely related natural resources, there is need for concerted efforts on long-term conservation needs and strategies (LVBC & WWF-ESARPO (2010a). The most affected resources are forests, water and wildlife. Since these are the basis on which community groups are anchored and benefit, the need for sound strategies is indeed urgent and must incorporate trans-boundary legal and policy issues specifically addressing the MSE ecosystem. Current management measures in the conservation of wildlife indicate that protected areas are too small to have an impact on overall resolution of human –wildlife conflicts (Woodroffe and Ginsberg, 1998). MMNR and SNP allow wildlife tourism as the only land use practice. The two core areas are surrounded by buffer zones consisting of game reserves and conservation areas which variably allow for tourism settlement, livestock, cultivation and hunting. The current strategies in managing Mara trans-boundary water resources are captured in the report on the shared water resource (LVBC & WWF-ESARPO (2010b). This report provides recommendations for the water resources of Mara River by providing management options. The recommendations may function when backed by policy formulations and will result in long-term conservation of the resource to benefit the trans-boundary communities.

1.6 Sustainable development

The concept of Sustainable Development (SD) has its origin in 1987 through the Brundland report which culminated into the 1992 Rio de Janeiro UN conference (United Nations Conference on Environment and Development, 1992) which highlighted the fact that clean air and water, productive soils, and a healthy and diverse resource base must be maintained in order to ensure a long term economic development, human wellbeing and prosperity. From the conference several treaties such as the Convention of Biological Diversity (CBD), Convention on International Trade in Endangered Species (CITES) came into being.

In the past, conservation of biodiversity was carried out by establishing parks and zoos and creating strict laws regarding the use of wild plants and animals. This form of natural resource management was costly and inefficient. In the last two decades, awareness has grown regarding the close links between biodiversity loss and human population and poverty. It is now commonly accepted that the people who live in close contact with, and are dependent upon, wild plants and animals for their survival must be fully involved in all efforts to find solutions for biodiversity loss. The latter forms the principle of what has evolved into Community Based Natural Resource Management (CBNRM), which is a paradigm shift in conservation and natural resource management. The goals of CBNRM are to increase resource user participation in NRM decision making and sharing of benefits by restructuring the power relations between central state and communities through the transfer (devolution) of management authority to local level organizations. The CBNRM concept is compatible with international treaties as it has a framework for integrating with economic and social development. Participation in development is a process through which people with a legitimate interest (i.e. stakeholders) influence and share control over development plans and decisions and resources that affect them.

In the recent past, various countries have been redefining natural resource management to directly engage local communities. For instance in Tanzania, the Wildlife Conservation policy (1998) moves beyond the outreach efforts of community conservation employed by the Tanzania National Park Authority (TANAPA) by proposing real engagement through community based conservation (WD, 1999). Amongst other countries which have adopted CBNRM approaches are India, China, USA, Namibia, Botswana, South Africa, Malawi, Zambia and Lesotho (Shackleton *et. al.* 2002).

Songorwa (1999) has analysed successes and failures in seven CBNRM groups in Africa namely Lupande Development Project (LDP), Administrative Management Design for Game Management Areas (ADMAGE), Luangwa Integrated Rural Development Project (LIRDP) and Zambia Wetlands Project (ZWP) in Zambia; Wildlife Industries New Development for All (Operation WINDFALL) and Communal Area Management Programme for Indigenous Resources (CAMPFIRE) in Zimbabwe and Nazinga Wildlife Utilization Project in Burkina Faso. He is of the opinion that although there are obvious gains by these groups, challenges abound mainly due to failure to implement the intended bottom-up participatory approaches and raise interest among community members. Other challenges mentioned within the Southern African context includes the role of traditional leaders (Chiefs and village elders) who may be excluded from decisions thereby jeopardizing conservation efforts. The concept of managing trans-boundary natural resources borrows greatly from the successes and challenges witnessed in Southern Africa. The report on “Four Corners” outlines the need for government support in the establishment of TBNRM groups and critical support by community members in supporting such initiatives (“Four Corners” Report, 2004).

1.7 Rationale for strengthening CBNRM groups

The Mara River Basin (MRB) in which the MSE study area is located is rich in biodiversity and provides food and income to an estimated 1.1 million people within the basin. The main unique biodiversity of the ecosystem includes mammals (lion, leopard, black rhino, elephant, Burchell zebra, blue wildebeest and the Thomsons gazelle), birds, trees and shrubs (Gerrards acacia, umbrella thorn, wild olive and the yellow fever tree) and numerous flowers and grasses). Mineral resources include gold, sand and gemstones. The management of natural resources within the MRB is carried out in a framework that involves various stakeholders, key among them being the local communities.

Information indicates that communities that also form CBNRM groups (Figure 1.3) reside in areas mostly around the parks and have legal rights to manage wildlife and other natural resources around their villages. However, the human population outside the parks has expanded rapidly over the last 30 years. Wildlife and livestock populations have grown and the demand for land is high. Grazing land is

becoming scarce as pasture land is converted into crop land. The local people are vulnerable to external development and large scale agricultural schemes which do not benefit them. Open land ownership has also resulted in local people over-exploiting common resources (Leader-Williams *et al.* 1996). In the recent past there have been attempts to promote CBNRM in the MSE through lessons learnt from other similar interventions elsewhere in the world. This study will therefore prepare a basis for strengthening of Community Based Natural Resources Management groups in the Maasai Mara - Serengeti ecosystems.

This consultancy was tasked to generate information on Strengthening Community Based Natural Resources Management in the Mara and Serengeti Ecosystems (MSE). Findings of this consultancy are intended to promote community based natural resources management in the Maasai Mara - Serengeti ecosystem. Specifically, this consultancy addressed the following objectives:

- i. Conduct an inventory and SWOT analysis of CBNRM groups
- ii. Prepare guidelines for engagement of CBNRM groups (WMAs and Conservancies)
- iii. Identify, document and replicate CBNRM best practices

To address these objectives, the consultancy undertook the following assignments:

- Surveyed and mapped out existing CBNRM groups in the ecosystems
- Reviewed on-going CBNRM initiatives in the Maasai - Mara Serengeti ecosystem
- Carried out SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the CBNRM groups
- Identified capacity building needs of CBNRM groups
- Identified 'best practices' among the CBNRM groups
- Proposed a Transboundary NRM Committee/Network including their roles and responsibilities
- Prepared transboundary guidelines for engagement of CBNRM groups (WMAs and Conservancies);



Ecotourism activities at Sekenani within the MSE



Oloolaimutia community water project within the MSE



Cultural village within the MSE

Figure 1.4: CBNRM groups within the MSE

CHAPTER 2: CONCEPTUAL FRAMEWORK

This chapter introduces the concept of CBNRM and how it applies in the development, conservation and management of national resources. The major aims of this concept are to reduce poverty, improve conservation and attain good governance. CBNRM strategies focuses on the user community being empowered to manage the natural resources while benefiting from their sustainable management

2.1 Natural Resources Management

NRM is the management of natural resources such as land, water, soil, plants and animals, with particular focus on how the management affects the quality of life for both present and future generations. Natural Resource Management is congruent with the concept of sustainable development, the principle that forms the basis for sustainable global land management and environmental governance to conserve and preserve natural resources. Natural resource management specifically focuses on scientific and technical understanding of resources and ecology and the life supporting capacities of those resources.

Natural resource management lays emphasis on sustainability and can be traced back to the early attempts to understand the ecological nature of American rangelands and resource conservation. In the 20th Century the concept took a more holistic, national and even global form culminating in the Brundland Commission and the advocacy of sustainable development (Brundland, 1987). At that time the state had a controlling role in formulation and management of NRMs. In many cases these systems led to failure and disillusionment as they were protectionist styles of management (Lyons, 2000; Lewis & Carter, 1993). In addition, the colonial-era management practices based on "fines and fences" frequently failed to achieve conservation goals because they alienated people from their traditional resource base, thereby reducing the economic and social value of natural resources and causing over-exploitation and mismanagement (Lyons, 2000). Finally, the state management system had inherent weakness as it was seen as a domain of either state sector institutions endowed with appropriate authority, expertise and other resources or private sector institutions persuing individual economic interests and benefits. These weaknesses led to the paradigm shift from state-controlled NRM to Community Based Conservation (CBC) groups.

2.2 Community Based Conservation

Community Based Conservation (CBC) became the recognized trademark of what many claimed was a "new conservation" unfolding across Africa (Hulme and Murphee, 1999). In response to the recognized failure of top-down approaches to development and ecological limits of protectionist ("fortress") conservation, "the community" has now become the catchall solution for effective conservation *and* development (Western and Wright, 1994; McNeely, 1995; McNaughton, 1989). CBC shifts the focus of conservation from nature as protected through exclusive state control to nature as managed through inclusive, participatory, community-based endeavors with direct economic benefits to communities. While successes have been noted in CBC styles of management, a recent commentary by a leading CBC proponent in southern Africa, Marshall Murphee, characterizes the broad picture of CBCs in Africa as "one where successes stand as islands in a sea of initiatives where performance rarely matches promise and is sometimes abysmal" (Alcorn *et al.* 2002 pp. 4). The islands of success in both Kenya and Tanzania are encouraging initiatives considering that CBC contributes to economic benefits for the communities, the country and the resource conservation objectives. It is noteworthy that these initiatives are still at an early stage in both Kenya and Tanzania (less than 20 yrs). To effectively make this shift, CBC devolves natural resource management to local communities and hence is often referred to as community-based natural resource management.

2.3 Community Based Natural Resources Management

Community based Natural Resource Management (CBNRM) is an approach to conservation and development that recognizes the rights of the local people to manage and benefit from the management

and use of natural resources. It entails transferring back access and user rights to communities, empowering them with legislation and devolved management responsibilities, building their capacity and creating partnerships with public and private sector actors to develop programmes for the sustainable use of a variety of natural resources. Many traditional systems of natural resource tenure are known to be sustainable and are also beneficial to conservation. There is need to enable these traditions to continue despite modern changes in economy and society. CBNRM concept addresses both human and natural resource issues such as the long term benefits of present and future generations given the inefficiency of state management. In addition, CBNRM addresses objectives such as equity, poverty alleviation and empowerment of marginalized user communities. The management concept focuses on communities for assessing natural resource types, limits, their uses, potential, problems, trends and opportunities. In addition it also takes action dealing with adverse practices and dynamics with corporation and support from other actors linked horizontally (e.g. other communities) and vertically (e.g. higher level or external entities such as local or district governments, regional bodies, government agencies, non-governmental organizations (NGOs), universities or other organizations that have interest in resource conservation and management (Figure 2.1).

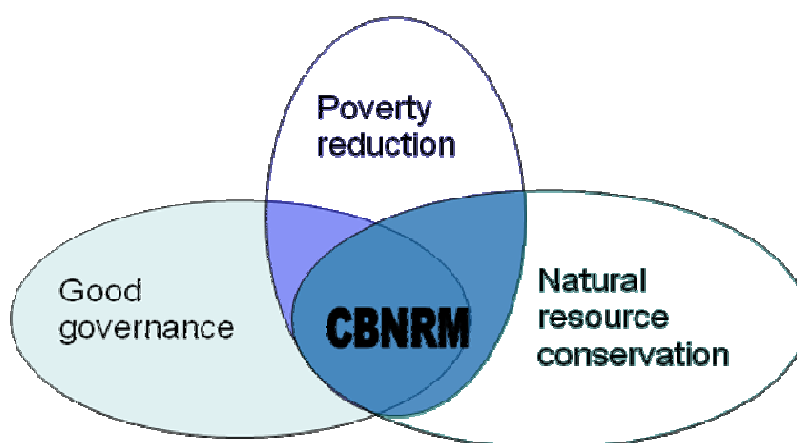


Figure 2.1: CBNRM and its linkages to overall development objectives

The key elements of CBNRM include detailed operation plans developed and agreed upon by all concerned stakeholders. In addition, the approach ensures that communities are backed by a legal framework on rights, benefits and economic incentives to take substantial responsibility for sustained use of resources. The CBNRM groups operate under the following principles (Bond *et.al.* 2006):

- a) The benefits of managing a resource should exceed the costs and the resource must have a measurable value to the community.
- b) Communities living with the resource should receive higher benefits than those who do not.
- c) Smaller groups are more likely to better manage their resources than larger groups.
- d) The community that lives with the resource should also be the group that makes the decisions over the resource and the same as the group that benefits.
- e) Communities should benefit from practicing good management. Similarly, when communities do not invest in management, then the benefits should fall.

The main benefits accruing from adopting these measures can be categorized into direct and indirect benefits. Direct benefits include investments in rural infrastructure through community based projects, direct cash dividends from partnerships, and employment opportunities with both the private sector and CBOs. Indirect benefits include maintenance or growth of stocks of natural resources, capacity building, opportunities to diversify local economy and integration into the local market (Figure 2.2).

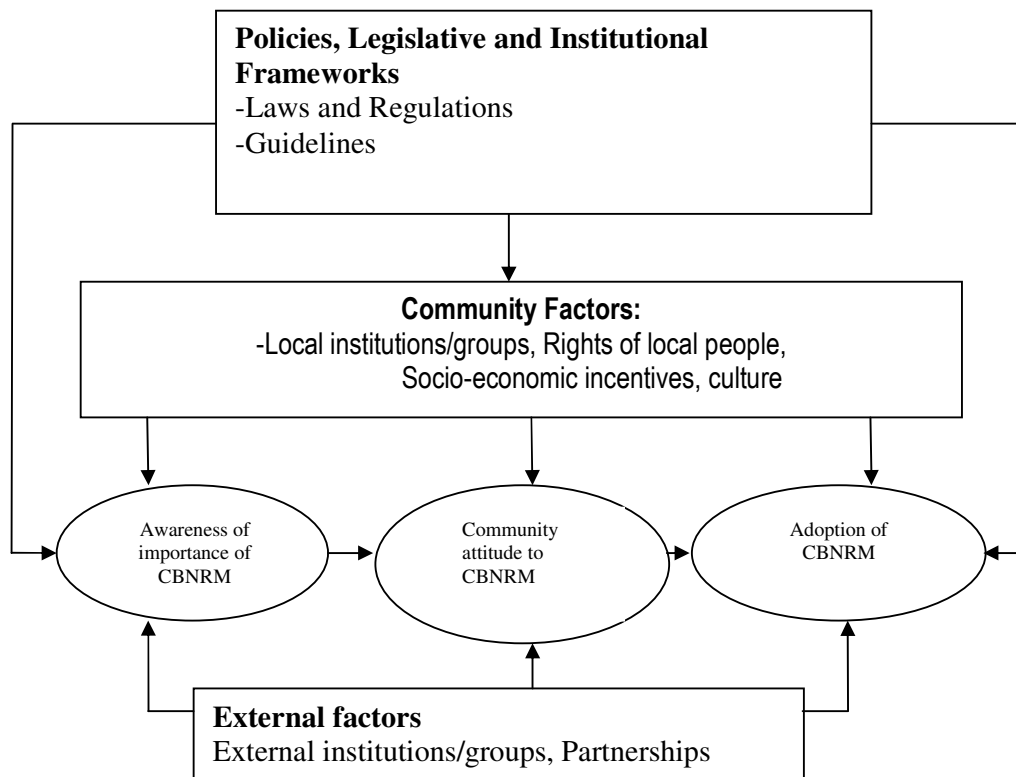


Figure 2.2: Conceptual framework for analysis of CBNRM

Despite the process towards devolution in the process of natural resource management, the central governments or their agents still maintain a role by protecting the wider “public goods” such as watersheds, biodiversity carbon sinks and other ecological services; establishing the policy, legal and social frameworks and conditions needed for local management to succeed; mediating conflicts; providing technical assistance; facilitating and regulating private activity; addressing local inequalities of marginal groups so that downward accountabilities of organizations receiving devolved authority is assured; helping communities to defend their rights including protection against powerful external groups such as mining and timber companies and organized traders; and supporting local capacity (Shackleton *et. al.* 2002).

Among the countries that have adopted CBNRM approach are South Africa, USA, India, China, the Philipines, Botswana, Namibia, South Africa, Zimbabwe, Malawi, Zambia and Lesotho. Shackleton *et. al.* (2002) cites the case of Makuleke in Kruger National Park in South Africa where CBNRM group members only gained rights to non- consumptive benefits mainly derived from tourism. In parts of Zimbabwe and India, timber and valuable Non-Timber Forest Products (NTFPs) are reserved for state management, often increasing officials’ personal income but denying local people income- earning opportunities. In India, China and the Philippines, timber and agroforestry species favoured by forestry departments are usually promoted at the expense of species valued by poor people for medicine, fodder, craft materials and wild foods. In Namibia, communities are often pleased to see game numbers increase but are more vulnerable to crop and livestock damage by ‘problem’ animals. In most of the studies carried out on the existing CBNRM, bureaucracies have created bottlenecks in the implementation stages creating negative feelings in the community (Shackleton *et. al.* 2002). In almost all African countries practising CBNRM, the traditional local authorities have continued to play a role in NRM with varying degrees of legitimacy and control. For instance in Zambia and Lesotho, chiefs asserted disproportionate power as chairpersons of some district NRM structures and diverted some

community based NRM benefits towards building their own power base. On the other hand, cases in Namibia point to conflicts, delays and a counterproductive setup when traditional leaders are excluded.

Case studies of several CBNRM groups show that the sharing of financial benefits is varied. In some income distribution arrangements, shares are generally decided at the central government level but the government often failed to deliver on its promised share of incomes, or returns were far less than anticipated and inadequate to maintain local enthusiasm. Only in a few cases did the communities receive substantial financial benefits, e.g. in Namibia and Botswana. In these exceptional cases, dividends were considerable - the Chombe Enclave Trust in Botswana received about US \$200,000 per year from wildlife utilization and tourism and about 45 families shared about US \$125,000 annually. By contrast, in India the forest department claimed more than half the income from timber, even when they played no role in protecting the harvested trees (Shackleton *et. al.* 2002).

In Kenya CBNRM groups exist in the major sectors managing natural resources including wildlife, water, forestry, fisheries, wetlands and rangelands (Matiru, 2004; Figure 2.3). Instances of CBNRM groups for wildlife management are documented for various places e.g. Samburu (Ndoto-Nyiro Leroghi-Kirisia and Waso-Wamba conservancies), Kwale (Mwaluganje Community Wildlife Sanctuary), Laikipia (Ilengesi group ranch), and Amboseli (Eselenkei, Kimana Conservancy). The forestry sector is in the process of developing a policy that will promote community participation in forest management and conservation through empowering the communities to manage forests as associations (Draft Forest Policy, 2007). In forestry CBNRM groups are active in Kakamega forest (Ikuywa Village conservation group, Kakamega Biodiversity Conservation and Tour Operators Association – KABCOTOA, and Kakamega Environmental Education Programme- KEEP), Rumuruti forest, Eburu forest, Kayas, Mukurwe wa Nyagathanga and Njuri Ncheke forest in central Kenya, Arubuko Sokoke in Gede - Malindi (Kipepeo project) and City Park in Parklands Nairobi.

The Kenya Water Act of 2002 provides for the establishment of a comprehensive framework for effective management, conservation, use and control of water resources in the country. The act also emphasizes decentralized responsibilities for water resources management to grassroot institutions known as the Water Resource Users' Associations (WRUAs). Currently about 31 WRUAs have been formed. Among the WRUAs with transboundary mandates is the Mara River Transboundary Water Resource User's Forum (MRTWUF).

In fisheries the CBNRMs are founded on the basis of landing beaches incorporating all resource users' e.g. artisanal fishermen, fish traders and processors in what are known as Beach Management Units (Oceans and Fisheries Policy, 2009). In wetlands, the main CBNRM groups are located in some of main lakes e.g. Lake Naivasha (Lake Naivasha Riparian Association) and Lake Nakuru. In most cases the wetland management initiatives are carried out either by projects or managed by institutions such as KWS and NMK with technical advice from institutions such as IUCN and WWF.

Maasai Mara – Serengeti ecosystem is a shared resource under immense pressure. There is need to consider the following: the ecosystem transcends state boundaries, activities or jurisdiction in one state affect the environmental and social systems in the other, cross border communities have seamless cultural interactions and that ecosystem resources support peoples' livelihoods. Therefore, there arises the need to conserve and manage the ecosystem using a transboundary approach which will lead to collaboration within state, institutions, civil society and the local communities. In this respect it is prudent to adopt the CBNRM concept. In the Maasai Mara–Serengeti ecosystem the concept is gaining ground. For instance, Tanzania has redefined its wildlife conservation agenda to directly engage local communities (Goldman, 2002). The concept of CBNRM mainly involves villages managed through local authorities, the village assembly, the village finance and planning committees, the village natural resources committees and or village environmental committees. Generally game scouts and forest guards are used to police areas under community control but all members of the local community are

obliged to help monitor and report illicit activities to the village authorities. The villages involved in CBNRM generally earn incomes through agriculture, livestock, fisheries, forestry, mining and other extractive activities (USAID, 2009). NGOs, bilateral and multilateral donors support almost all CBNRM activities due to the high investment costs and lack of expertise. Among the CBNRM groups in these areas is the Ikona Community Wildlife Management Areas (ICOWMA). The partners are mainly from AWF, WWF, Frankfurt Zoological Society and Africare.

In Kenya, there has been increased involvement of local communities in the management of local resources especially around protected areas. Within the MMNR, management is supervised by Narok County Council which is a public body that develops management plans in collaboration with NGOs, the private sector and governmental agencies such as KWS and NEMA. Within the group ranches owned by the Maasai community, there are several privately managed conservancies e.g Olboisho, Mara North, Siana, Olare Orok and Motorogi.



	
<p>Wildebeest migration across River Mara within the MSE</p>	<p>Tourism activities due wildebeest and Zebra migration across River Mara within the MSE</p>
	
<p>Mining activities within the MSE</p>	<p>CBNRM forest nursery initiatives within the MSE</p>

Figure 2.3: Natural resources and CBNRM initiatives within the MSE.

CHAPTER 3: OBJECTIVES

This chapter provides a description of the consultancy objectives, tasks undertaken and expected outputs as stipulated in the ToRs

3.1 Overall Objective

The overall goal of this consultancy (see Appendix 1) was to prepare a basis for strengthening of community based natural resources management in the Masai Mara and Serengeti ecosystems.

3.2 Specific Objectives

The main tasks of the consultancy were to:

1. Conduct an inventory and SWOT analysis of CBNRM groups
2. Prepare guidelines for engagement of CBNRM groups (WMAs and Conservancies)
3. Identify, document and replicate CBNRM best practices

3.3 Tasks of the consultancy

The main tasks of this consultancy included the following:

- a) Conducting an inventory and SWOT analysis of CBNRM groups by:
 - i. Mapping of the existing CBNRM groups
 - ii. A SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the CBNRM groups
 - iii. An assessment of capacity building needs of the CBNRM groups
 - iv. Proposition of a Transboundary NRM Committee network including their roles and responsibilities
- b) Proposition of transboundary guidelines for engagement CBNRM groups (WMAs and Conservancies);
- c) Reviewing of on-going CBNRM initiatives in the Maasai Mara - Serengeti ecosystem; and
- d) Identification and documentation of best practices

3.4 Expected Outputs

Table 3.1 provides the objectives, activities and deliverables envisaged during the study period.

Table 3.1. Objectives, activities and deliverables envisaged during the study.

	Objective	Activities	Deliverables
1	Conduct an inventory and SWOT analysis of CBNRM groups	<ul style="list-style-type: none"> • Identify the existing CBNRM groups through organizations working in the area • Undertake situation analysis to establish their legal status • Organize for a meeting with the CBNRM group representatives to understand the groups and their activities 	<ul style="list-style-type: none"> • A list of community based CBNRM groups with legal identity within the study area
		<ul style="list-style-type: none"> • To carry participatory analysis of the groups strengths, weaknesses opportunities and threats. 	<ul style="list-style-type: none"> • SWOT indicating the groups' strengths, weaknesses opportunities and threats as evident from the study area.

	Objective	Activities	Deliverables
		<ul style="list-style-type: none"> To map the existing CBNRM groups 	<ul style="list-style-type: none"> Interests, roles and level of influence of the different groups. Map showing the distribution and locations of the CBNRM groups in the study area
		<ul style="list-style-type: none"> Identify capacity building needs of CBNRM groups 	<ul style="list-style-type: none"> Information on the training needs assessment of the CBNRM groups
		<ul style="list-style-type: none"> To develop Terms of Reference (TORs) for a transboundary Natural Resource Management (NRM) Committee/Network 	<ul style="list-style-type: none"> TORs for a transboundary NRM committee network for the Maasai Mara - Serengeti Ecosystem.
2	Prepare guidelines for engagement of CBNRM groups (WMAs and Conservancies)	<ul style="list-style-type: none"> To identify existing guidelines / action plans/strategic plans, development plans, annual workplans, framework of daily activities, landuse options, activity plans. 	<ul style="list-style-type: none"> A list of proposed guidelines and action plans
		<ul style="list-style-type: none"> Organize for a meeting with the CBNRM group member representatives to understand the activities of the group 	<ul style="list-style-type: none"> KII showing outputs of meetings and deliberations
		<ul style="list-style-type: none"> Analyze the implementation of the existing guidelines / action plans/ strategic plans 	<ul style="list-style-type: none"> Information on the effectiveness of the existing guidelines/action plans/ strategic plans
		<ul style="list-style-type: none"> Analyze the levels of achievements of CBNRM groups based on existing guidelines/ action plans/ strategic plans 	<ul style="list-style-type: none"> Information on achievements and expected outputs
		<ul style="list-style-type: none"> Level of involvement of stakeholders, communities and gender parity 	<ul style="list-style-type: none"> Information on the diversity of stakeholders participating in CBNRM group activities
		<ul style="list-style-type: none"> Assess the planning procedures of activities undertaken by CBNRM 	<ul style="list-style-type: none"> Information highlighting the planning activities
		<ul style="list-style-type: none"> Determining the existence of standard financial procedures 	<ul style="list-style-type: none"> Information on the existence of a bank account, balance sheet, signatories and books of accounts
		<ul style="list-style-type: none"> Establish and analyze the M&E systems in the CBNRM groups 	<ul style="list-style-type: none"> Information on the use of M&E systems
		<ul style="list-style-type: none"> Analyze the reporting system of the CBNRM groups 	<ul style="list-style-type: none"> Information indicating the reporting system for various activities
		<ul style="list-style-type: none"> Compile guidelines 	<ul style="list-style-type: none"> Report on the guidelines
3	Identify, document and replicate CBNRM best practices	<ul style="list-style-type: none"> Develop criteria to determine best practices among the CBNRM groups 	<ul style="list-style-type: none"> Reference on the criteria used

	Objective	Activities	Deliverables
		<ul style="list-style-type: none"> • Evaluate the performance of CBNRM against the developed criteria • Document the best practices 	<ul style="list-style-type: none"> • Information on the performance of the CBNRM on natural resource management • Report on the best practices.

CHAPTER 4: METHODOLOGY

A description of the study area, organization of the assignment and data collection approaches are provided in this chapter.

4.1 Study area

The Mara - Serengeti Ecosystem (MSE) covers an area of 25,000 km² on the border of Tanzania and Kenya (Figure 4.1). The entire area under the Maasai Mara ecosystem is within the Mara River Basin (area 13,750 km²) but only 35 % of the Serengeti is found in the river basin (dotted area on the map).

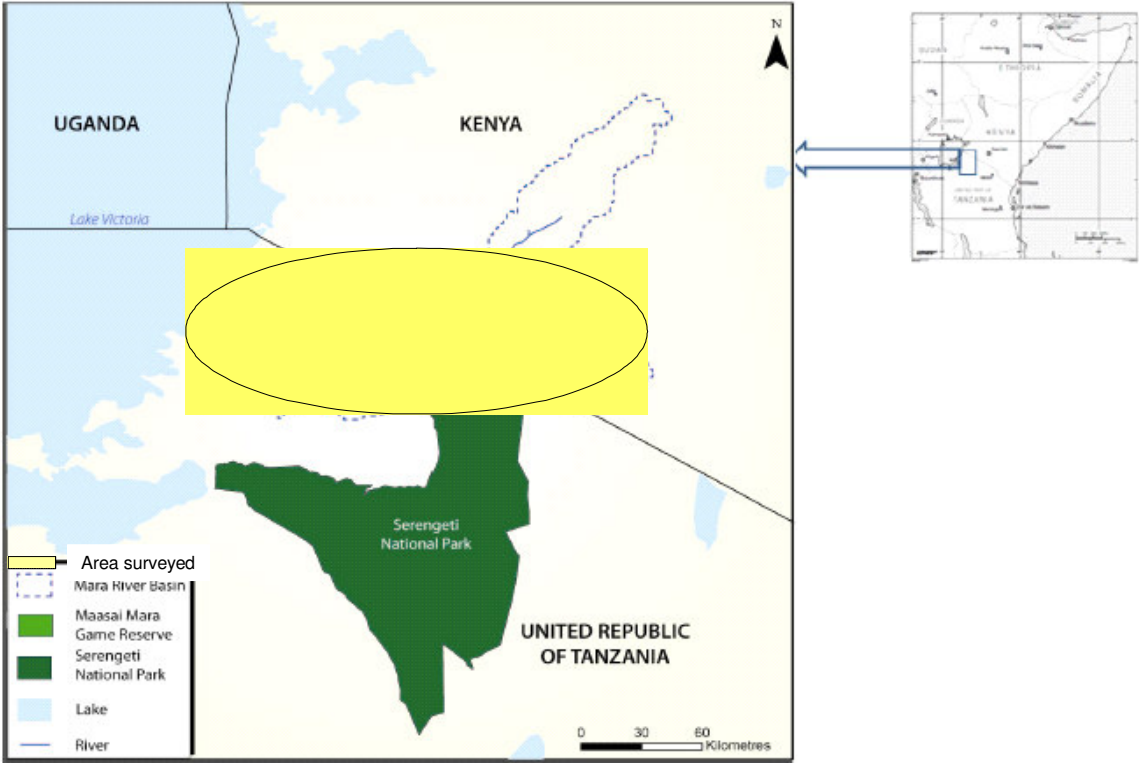


Figure 4.1: Map of the transboundary Mara River Basin showing the areas surveyed during the study. (Source: Modified from UNEP (2009), “Kenya: Atlas of Our Changing Environment.”)

4.2 Organization of the assignment

Table 4.1: Key experts who undertook the studies

Name	Role	Areas of expertise for this consultancy
Dr.Odendo Martins (Team Leader)	Socio-economics	SWOT analysis of CBNRM groups
Dr. Tsuma Jembe	Ecology	Review of CBNRM initiatives in ecosystems
Dr. John Gichuki	Environment	Water resources and environment
Dr. Paul Abuom	Land Use	Land use practices and policies: Preparation of transboundary guidelines for engagement of CBNRM
Dr. Emmanuel Gereta	Wildlife studies	Wildlife management
Willis Atie	Forestry	Forest Management
Priscilla Boera	Mapping	GIS mapping of existing CBNRM groups
Placid Ngiliule	Socio-economics	SWOT analysis of CBNRM groups

4.3 Study design

This was a purposive study that focused on the Mara - Serengeti Ecosystem within the Mara River Basin. The study was cross-sectional and being formative provided insights into the management of the ecosystem. It was guided by the objectives and principles of standard approaches in collecting and collating data that is appropriate for any future references during the cycle of the programmes and activities to be undertaken by LVBC in the ecosystem. The study design integrated both data triangulation (quantitative and qualitative) using both primary and secondary data sources and methodological triangulation.

4.4 Determination of the sample size

The sample size was determined using the following equation adopted from Wonnacott and Wonnacott (1990):

$$N = \frac{Z^2 P(1 - P)}{\Phi^2}$$

Where, N = required sample size, Z = confidence level at 95% (standard value of 1.96), p = estimated proportion of an attribute, which is estimated at 50% because studies have shown nearly 50% of the population belongs to groups and Φ = margin of error at 5% (standard value of 0.05).

The sample size estimated for the surveyed population using the above formula was 25.

4.5 Data collection approaches

4.5.1 Literature Review

Secondary data was collected through literature reviews of documents that were of relevance to the project, notably the following:

- Wildlife Policy of Tanzania, 1998
- National Tourism Policy of Tanzania, 1999.
- Tourism Masterplan Strategy and Action, 2002, United Republic of Tanzania (URT)

- Mara River Basin Policy, Legal, and Institutional Cooperative Framework. Mara River Basin Transboundary Integrated Water Resources Management and Development Project. NELSAP.
- Serengeti District Council Strategic Plan, 2006/07 – 2010/11.
- Assessment of CBNRM in Tanzania. 2002. USAID / Africa Bureau – Office of Sustainable Development.
- The Millennium Development Goals Report. .2006. UN.
- Workshop Report on the Formation of Mara River Basin Transboundary Water Forum Organized by WWF-EARPO and coordinated by LVBC workshop Report, 17-18th July 2008. Seasons Hotel Narok.
- UNEP (2009), “Kenya: Atlas of Our Changing Environment.” Division of Early Warning and Assessment (DEWA). (UNEP), Nairobi Kenya.
- LVBC & WWF-ESARPO (2010), Biodiversity Strategy and Action Plan for Sustainable Management of the Mara River Basin. Nairobi and Kisumu, Kenya.
- LVBC & WWF-ESARPO, 2010. Assessing Reserve Flows for the Mara River. Nairobi and Kisumu, Kenya.
- Serengeti National Park General Management Plan 2006 – 2016. 184 pp.
- Masai Mara National Reserve Draft Action Plan, 2010
- <http://www.KenyaLaw.org>
- Peer reviewed journals eg *Journal of International Development Animal Conservation*, *International Journal of Sustainable Development World Development*
- Published books e.g. Staying Maasai and Community management of natural resources in Africa, impacts experiences and future directions, edited by Dilys Roe, Fred, Nelson, Chris Sandbrook IICED, *Expanding Partnerships in Conservation*. IUCN publication. Washington D.C.: Island Press. Community Based Natural Resource Management in the IGAD region. Editors J. Awimbo, E. Barrow and M. Karaba. IUCN

4.5.2 Key Policies and legal frameworks impacting on CBNRM Groups.

There are several policy and legal frameworks that impact on the activities of CBNRM groups in Tanzania and Kenya directly or indirectly. These legal instruments also provide for registration mechanisms. These are shown below, sector-wise.

4.5.2.1 Policies and legal frameworks in Tanzania

- Wildlife Resources Management
 - i) Wildlife Policy 2010
 - ii) Wildlife Conservation Act 2009
 - iii) Wildlife Management Areas Regulations
- Forestry Resources Management
 - i) Forestry Policy 1998 (under revision)
 - ii) The Forestry Act No. 14, 2002
 - iii) Community Based Forestry Management Guidelines 2001
- Water Resources Management
 - i) Water Policy 2002
 - ii) Water Resource Management Act, 2009
 - iii) Water Resource Supply and sanitation Act 2009.
 - iv) The water supply and sanitation (Registration of Community owned water supply organizations) Regulations of 2009.
 - v) The water supply and sanitation (Regulation of water users) Regulation, 2009.
- Beekeeping
 - i) National Beekeeping Policy 1998
 - ii) Beekeeping Act No. 15, 2002
- Tourism

- i) National Tourism Policy, 1999
- ii) The Tourism Act 2008
- Fisheries Resources Management
 - i) The Fisheries Policy, 1997
 - ii) The Fisheries Act 2003
 - iii) The Fisheries Regulations 2009
- Mining
 - i) Mining Policy
 - ii) Mining Act 2010
- Cross cutting legislations
 - i) The Societies Act cap 337, 1954 Revised 2002 (for registration of CBOs and NGOs)
 - ii) Environment Management Act 2004
 - iii) Land Act 1999
 - iv) Village Land Act 2000, cap 257 for District Authorities, cap 288, for Urban Authorities.

4.5.2.2 Kenya

- Wildlife Resources Management
 - i) The Wildlife Conservation and Management Amendment Act 1989.
 - ii) Wildlife Management Policy in Kenya, 1976
 - iii) The Wildlife Conservation and Management (Amendment) Bill, 2010
- Forestry Resources Management
 - i) Forest Act 2005
 - ii) Participatory Forest Management Policy, 2005
- Water Resources Management
 - i) The Water Act, 2002
 - ii) Water Resources Management Rules, 2007
 - iii) The National Water Policy 2000
- Beekeeping
 - i) Kenya's Agricultural Act, 1986 Chapter 318
- Tourism
 - i) National Tourism Policy, 2006
- Fisheries Resources Management
 - i) The Fisheries Policy, 1997
 - ii) Fisheries Protection Act, 1977
 - iii) The Science and Technology Act, 1977
 - iv) National Oceans and Fisheries Policy 2008
- Mining
 - i) Mining Act, 1940
 - ii) Mining regulations, 2003
 - iii) Exclusion of land from prospecting and mining legislation, 1988
- Cross cutting legislations
 - ii) Sessional Paper No. 10: African Socialism and its Application to Planning in Kenya 1965
 - iii) The Plant Protection Act, 1979 Chapter 324,
 - iv) The Suppression of Noxious Weeds Act, 1983 Chapter 325,
 - v) The Industrial Property Act, 1990. Chapter 509,
 - vi) The Seeds and Plant Varieties Act, 1991. Chapter 326
 - vii) The Kenya National Environment Action Plan 1993

- viii) Session Paper No. 6: Policy on Environment and Development 1999
- ix) Legal notice for registered land order, 2010.
- x) Environment Management and Coordination Act 1999
- xi) Kenya National Biodiversity Strategy and Action Plan 2000

4.5.3 Field Surveys

Rapid field surveys were undertaken to collect primary data in the project area (Figure 4.2) for a period 6 days.



Figure 4.2: Map of the transboundary Mara River Basin showing the area of the Mara - Serengeti ecosystem under the Mara Basin. (Source: LVBC and WWF-ESAPRO 2010).

The survey focused on CBNRM groups as units of analysis. The groups were categorized into three major sectors, namely, water resources, wildlife and forestry. Other relevant sectors e.g. fisheries, beekeeping, ecotourism, land and agriculture were also considered (Figure 4.3). From the existing registered CBNRM groups a sample size of 25 was chosen based on the formula in section 4.4 above. The subsample was apportioned equally among the resource categories. Within each resource category, a random sampling was carried depending on accessibility and availability of the CBNRM group.

Within the water resources sector, the following key issues were investigated, namely, challenges and opportunities in water conservation/management and catchment impacts with regard to water quantity and quality. Under wildlife, the key issues considered were human - wildlife conflicts and opportunities and constraints in wildlife management. With regard to forestry, the key issues were forest products, services and challenges in forest management.

A structured questionnaire (see Appendix 2) was used to obtain primary data from the relevant officials, and beneficiaries in CBNRM groups. In addition to the structured questionnaire, a predetermined Focus Group Discussion (FGD) question guide with relevant themes and sub-themes in

line with the study objectives were administered to purposively selected beneficiaries (see Appendix 3 and Appendix 5 for details). The FGDs were conducted by a moderator, note takers and an observer. Finally, using the snowball approach the Locally Influential Persons (LIPs) or Community Resource Persons (CORPs) were identified and interviewed using open ended questions (see Appendix 4). A Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of the activities was conducted with the stakeholders and beneficiaries for each sector. An assessment of the capacities of the various groups in the area was conducted (see Appendix 2 section 1). Finally, the gaps for possible areas of intervention were identified that other programmes could use to gauge their performance.

In addition, key officials in the following institutions were interviewed based on the countries of origin as follows;

Kenya

- Kenya Wildlife Service, Mara
- SCC Vi-Agroforestry
- LVBC, Kisumu Kenya
- WWF, Narok
- WARMA, Regional Office, Kisumu
- WARMA Sub-regional office, Narok
- Narok County Council
- Transmara County Council
- Ministry of Arid and Semi-arid Lands office, Narok
- Ministry of Arid and Semi-arid lands office, Transmara
- District Social Services Office, Narok South
- District Social Services Office, Narok North
- District Fisheries Office, Narok South

Tanzania

- Frankfurt Zoological Society (FZS), Fort Ikoma
- Serengeti National Park, Fort Ikoma
- Kenya Forestry Service, Transmara
- Regional Commissioners Office, Mara Region
- Serengeti District Council
- Ministry of Natural Resources and Tourism (MNRT), Dar es Salaam
- Prime Ministers Office, Ministry of Regional Administration and Local Government, Dar es Salaam
- Research, Training and Statistics, Wildlife Division, Ministry of Natural Resources and Tourism, Dar es Salaam
- Ministry of Community Development, Gender and Children, Dar es Salaam
- Registrar of Societies Office, Ministry of Home Affairs, Dar es Salaam
- Ministry of Water and Irrigation, Dar es Salaam
- Focal Point Office, Lake Victoria Basin Commission, Ministry of Water and Irrigation, Dar es Salaam

4.6 Data Processing

4.6.1 Data Entry

Data entry was done at a central place in tandem with data collection. After reviewing the completed questionnaires to rectify any data collection errors, the data input was entered into a computerized

database to ensure quality control. The data entry was done using a structure designed in Epi Info 2002 and SPSS Version 12. Where appropriate, validation and skip patterns were considered.




4.6.2 Data Analysis

The group survey data was analyzed using SPSS Version 12. The variables were subjected to descriptive statistics, cross tabulations and ratio analysis. The qualitative data was analyzed by consolidating emerging themes from the key informant interviews, topic analysis, and cut and paste methods on the focus group discussion transcripts. Gap analysis, SWOT analysis and organizational capacity assessment ranking were also conducted.

4.6.3 Data Quality Assurance

The following procedures were conducted to ensure data quality assurance as follows;

- All the sampling tool eg questionnaires were cross checked to ensure they were in harmony with the study objectives,
- All tools such as questionnaire were pretested and adjusted before the main study exercise to ensure quality,
- Data cleaning was carried to remove outliers,
- Supervision of data collectors and data entry clerks by the scientist,

	
<p>Wildlife resources within the MSE</p>	<p>Interviews sessions with CBNRM group members within the MSE</p>
	
<p>Wildlife conservancy office visited within the MSE</p>	



Interview session with CBNRM group member in Bee Keeping within the MSE

Figure 4.3: CBNRM activities within the MSE.

CHAPTER 5: INVENTORY AND ASSESSMENT OF CBNRM GROUPS

The major sectors investigated in this study were forestry, wildlife and water resources. Additionally other natural resources assessed included: fisheries, mining, bee keeping, land use and energy.

5.1 List of existing CBNRM groups within the MSE

5.1.1. Ecotourism activities within the MSE

A total 24 of groups engaged in ecotourism activities were identified in both the Mara and Serengeti within the MSE (Table 5.1). These groups are located in the urban centres within the proximity of protected areas, game reserves and parks, the conservancies and WMAs. Operations of these groups include the sale of artifacts derived from natural products such as wild animals and plants (curios). Other activities include cultural shows and lectures on culture. Apparently there are much less ecotourism groups in the Serengeti ecosystem owing to the limited number of hotels because tourists look for premier accommodation facilities from where they visit the groups. The Maasai culture attracts more tourists as opposed to the Kuria culture who are the major inhabitants of the Serengeti. Most of the ecotourism groups were diversifying their activities to include biogas production and environmental conservation e.g. tree planting.

Table 5.1: List of CBNRM groups in eco-tourism

	NAME OF GROUP	ACTIVITIES	LOCATION
	KENYA		
1	Kolong	Eco-tourism cultural village	Narok
2	Olepolos	Eco-tourism cultural village	Narok
3	Niloreno	Eco-tourism cultural village	Narok
4	Enkerese	Eco-tourism cultural village	Narok
5	Itong	Eco-tourism cultural village	Narok
6	Memiri	Eco-tourism cultural village	Narok
7	Olbama	Eco-tourism cultural village	Narok
8	Dupoto	Eco-tourism cultural village	Narok
9	Ololaimutia	Eco-tourism cultural village	Narok
10	Ngoirero	Eco-tourism cultural village	Oloolaimutia
11	Oletepesi	Eco-tourism cultural village	Oloolaimutia
12	Losho	Eco-tourism cultural village	Siana
13	Iltalisho	Eco-tourism cultural village	Siana
14	Irpopong	Eco-tourism cultural village	Siana
15	Orboma	Eco-tourism cultural village	Siana
16	Kolong	Eco-tourism cultural village	Talek
17	Nkama	Eco-tourism cultural village	Sekenani
18	Orgosua	Eco-tourism cultural village	Sekenani
19	Olepolos	Eco-tourism cultural village	Sekenani
20	Oyarata	Eco-tourism cultural village	Sekenani
21	Impuai	Eco-tourism cultural village	Talek
22	Enakang Esoit	Eco-tourism cultural village	Transmara
	TANZANIA		
23	Nyamieri Kuria Historical Centre	Eco-tourism cultural village	Serengeti
24	Serengeti Cultural Centre	Eco-tourism cultural village	Serengeti

5.1.2. Wildlife conservation initiatives

With regard to wildlife CBNRM groups, a total of 11 groups were identified within the MSE with 10 groups active in the Mara and 1 in the Serengeti (Table 5.2).

Table 5.2: List of CBNRM groups in wildlife

	NAME OF GROUP	ACTIVITIES	LOCATION
	KENYA		
1	Transmara Wildlife Scouts Association	Wildlife conservation	Transmara
2	Narok Wildlife Scouts Association	Wildlife conservation	Narok
3	Maa Elephant conservation	Wildlife conservation	Narok
4	Olare – Orok Motorogi Conservancy	Wildlife conservation	Narok
5	Mara North Conservancy (Koiyiaki Lemek Conservancy)	Wildlife conservation	Narok
6	Olchoro Oiriwua Conservancy	Wildlife conservation	Narok
7	Mara West Conservancy	Wildlife conservation	Narok
8	Naboisho Conservancy	Wildlife conservation	Narok
9	Siana Conservancy	Wildlife conservation	Narok
10	Olkinyei Conservancy	Wildlife conservation	Narok
	TANZANIA		
11	Ikona WMA	Wildlife conservation	Serengeti

A total of 7 conservancies are listed for the Mara ecosystem. The groups in Mara are mainly dominated by conservancies while in the Serengeti the group is a WMA. Conservation of wildlife within the Mara ecosystem is shared between the Narok County Council (NCC) and Trans-Mara Council Council (TMCC), with NCC managing a larger section of the MMNR while TMCC manages the Mara triangle through a private agreement between TMCC and a manager (Mr Brian Heath, a renowned international conservationist who also manages Mara North Conservancy outside the MMNR, (Figure 5.1). Outside these protected areas are the community conservancies e.g. Olare Orok, Naboisho, Ol Kinyei, Siana and Koiyiaki-Lemek. One of these conservancies, the Olare Orok Conservancy, has conservation initiatives that directly involve the local communities who remain the legal land owners. Formed in 2006, it has set what is today the blue-print for sustainability of the greater Maasai Mara ecosystem. Prior to the conservancy concept the lands consisted of group ranches occupying prime grasslands, riverine forests and acacia woodlands populated by rural homesteads and grazed in an uncontrolled manner by large herds of cattle, sheep and goats. Other CBNRM groups participating in wildlife conservation initiatives within this ecosystem include the Transmara Wildlife Scouts Association, Narok Wildlife Scouts Association and Maa Elephant Conservation.

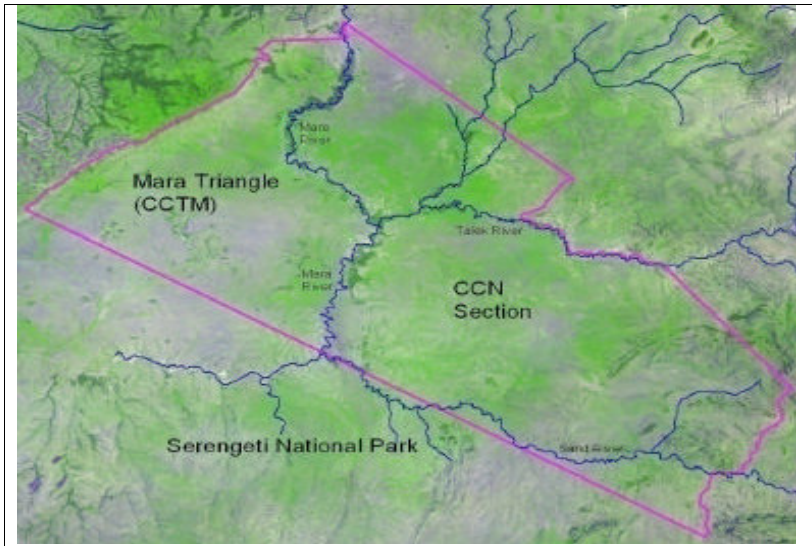


Figure 5.1. Map of MMNR showing the sections administered by the NCC and TMCC. (Source: Draft Action Plan for Maasai Mara)

5.1.3. Water use and conservation initiatives

The CBNRM groups in water resources active in the MSE are given in Table 5.3. In total 25 groups were identified, 18 of which were active in the Serengeti while only 7 were in the Mara. This sector is quite advanced in the formation of transboundary initiatives in management and conservation of water. For example, WRUAs and WUAs have formed a transboundary water user’s forum (Transboundary Water Resources Users Forum -TBWRUF) and Mara River Trans-boundary Water Users Association (MRTB-WRUA).

Table 5.3: List of CBNRM groups in water resources

	NAME OF GROUP	ACTIVITIES	LOCATION
	KENYA		
1	Mara River Water Users Association	Water resources	Amala River, Bomet
2	Mara River Trans-boundary Water Users Association	Water resources	Kericho
3	Longissa Community Water Project	Water resources	Longissa, Bomet
4	Siana Springs, Koiyaki	Water resources	Mara
5	Emporongi Women group	Water resources	Mara
6	Ololaimutia Enkitorio Water project	Water resources	Mara
7	Olkinyei Bore Hole water project	Water resources	Mara
8	Kolong	Water resources	Narok
	TANZANIA		
9	Bukabwa	Water resources	Musoma
10	Ryamisanga	Water resources	Musoma
11	Mirwa	Water resources	Musoma
12	Kwisaro	Water resources	Musoma
13	Nyamatoke	Water resources	Serengeti
14	Busawe	Water resources	Serengeti
15	Kenyana	Water resources	Serengeti
16	Nyamoko	Water resources	Serengeti

17	Machochwe	Water resources	Serengeti
18	Mbalibali	Water resources	Serengeti
19	Matongo	Water resources	Tarime
20	Nyakunguru	Water resources	Tarime
21	Marasibora	Water resources	Rorya
22	Kwibuse	Water resources	Rorya
23	Nyanchabakenye	Water resources	Rorya
24	Serengeti Cultural Centre	Water resources	Serengeti
25	Jumuia ya watumiaji maji nyamoko	Water resources	Serengeti
26	Mara River Trans-boundary Water Users Association	Water resources	Musoma

It is apparent that there are more WUAs in the Serengeti ecosystem owing to the fact that villages are located a considerable distance away from the Mara River (Figure 5.2). The area is also arid thus water availability is a challenge, and therefore the need for the communities to join efforts in the formation of water projects.

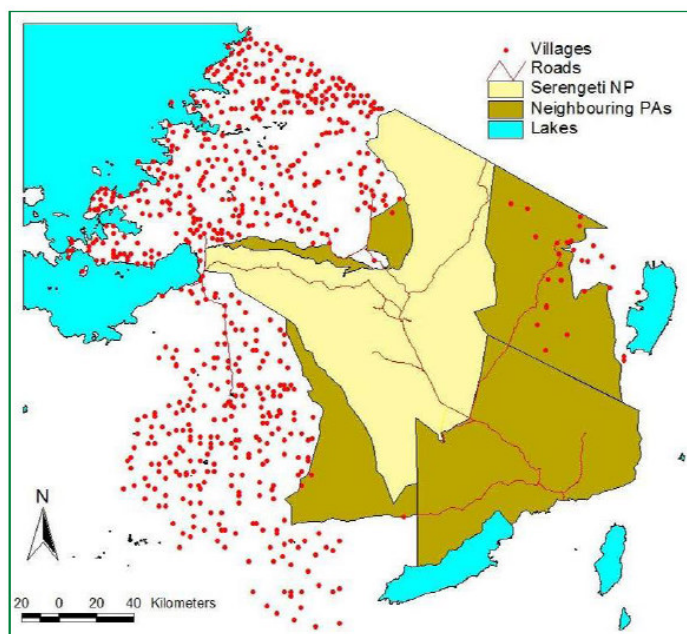


Figure 5.2 Map of the Serengeti ecosystem showing the park and adjacent villages (Source: Thirgood *et al.* (2004).

5.1.4 Forestry initiatives

With regard to CBNRM groups in forestry, a total of 23 groups active in the MSE were identified with 17 groups active in Mara and 6 groups active in Serengeti. There are more groups in Mara interested in forest initiatives since there are more natural forest areas in the highlands and that a large part of the Mau forest cover has been lost to logging and settlement. Currently the drive in Kenya is to conserve the remaining forests and to reclaim the lost cover through afforestation programmes in order to sustain the water tower. There is a general trend towards encouraging community participation in this venture some of which are being supported by development partners and the government. Forest conservation within the Mara include the conservation of riverine forests in wildlife protected areas by the Narok and Transmara County councils, protection of fringe forests by 12 Community Forest Areas (FAs) and tree planting activities by CBNRM groups such as Mau Forest Council of Elders, Friends of Mau, Irkiramat Mara and Ilaramatak Entiak Foundation. These activities are intended to conserve habitats due

to non consumptive benefits derived from the forest as refuge for wildlife, aesthetics, bee keeping activities and climate moderation.

Table 5.4 List of CBNRM groups in forestry

	NAME OF GROUP	ACTIVITIES	LOCATION
	KENYA		
1	Osupuko	Forestry CFA	Transmara
2	Pusanki	Forestry CFA	Transmara
3	Mara Discovery	Forestry CFA	Narok South
4	Dupoto	Forestry CFA	Transmara
5	Nairenyi	Forestry CFA	Transmara, Sitoka
6	Olare	Forestry CFA	Transmara, Olomismis
7	Olalui	Forestry CFA	Transmara, Kilgoris
8	Ilmeshuki	Forestry CFA	Transmara, Enosaen
9	Nasaru Laila	Forestry CFA	Transmara Laila
10	Amalo Nairotia Community Forest Association	Forestry CFA	
11	Masese Nyangores Community Forest Association	Forestry CFA	Bomet
12	Olunguruone Community Forest Association	Forestry CFA	Narok
13	Mau Forest Council of Elders	Tree planting	Narok
14	Friends of Mau	Tree planting	Narok
15	Irkiramat Mara Foundation	Tree planting	Mara
16	Ilaramatak Entiak	Tree nursery	Narok
	TANZANIA		
17	Nyamieri Kuria Historical Centre	Forestry	Serengeti
18	Tumaini Jema Serengeti	Forestry	Serengeti
19	Wastaafu Kata ya Kisaka	Forestry	Serengeti
20	Jumuia ya watumiaji maji nyamoko	Tree nursery	Serengeti
21	Kikundi cha walezi watoto yatima na mazingira magumu, Kinesi	Tree nursery	Rorya
22	Transmara Wildlife Scouts Association	Forestry	Transmara

5.1.5 Land use practices

In total 9 groups were identified in Mara within the MSE involved in activities related to land use practices (Table 5.5). The main activities included pasture improvement through paddocking and rotation grazing, cross breeding of exotic and local dairy goats to increase milk production and protein in the diet, and wheat and maize farming for commercial purposes. In addition there was small scale subsistence farming. Commercial maize and wheat farming is practiced in areas that form wildlife corridors leading to human-wildlife conflicts and deterioration of the environment.

Table 5.5: List of CBNRM groups in land use practices

	NAME OF GROUP	ACTIVITY	LOCATION
	KENYA		
1	Oloosidan Swamps	Agriculture	Mara
2	Ilkisaruni	Agriculture	Mara
3	Olomayian	Agriculture	Mara
4	Impirisi	Agriculture	Mara
5	Entarento	Agriculture	Mara
6	Nawingoi	Agriculture	Mara
7	Mengili Sautua	Agriculture	Mara
8	Ilaramatak Entiak	Goat improvement project	Narok
9	Nasaru Ntomonok	Goat improvement project	Narok, Aitong
	TANZANIA		
10	Serengeti Farmers Association (SEFA)	Agriculture	Serengeti

5.1.6 Energy saving initiatives

Some of the CBNRM groups within the MSE have developed or adopted renewable energy programmes. For example Olare Orok Conservancy in the Mara has teamed up with local communities to develop hay combined with cow dung briquettes in a bid to reduce reliance on firewood for domestic cooking and thus reduce pressure on forests. The Kolong cultural village within the Mara is partnering with friends of conservation (FOC) to develop biogas (methane production) units from cowdung for domestic purposes. The Kikundi cha walezi watoto yatima na mazingira magumu, Kinesi in Serengeti has embraced the issues of alternative energy sources by developing, producing and marketing solar jikos.

Table 5.6. List of CBNRM groups in energy conservation

	NAME OF GROUP	ACTIVITY	Mara
	KENYA		
1	Olare Orok Conservancy	Hay brickets	Mara
2	Kolong Cultural village	Bio-gas	Mara
	TANZANIA		
3	Kikundi cha walezi watoto yatima na mazingira magumu, Kinesi	Solar energy cooking stoves	Musoma
4	Kereri village	Bio-gas	Mara

5.1.7 Bee keeping initiatives

A few CBNRM groups were active in bee keeping for honey production (Table 5.7). However they faced several challenges including marketing, honey extraction and packaging. One group (Kanan bees) had received funding from K-Rep a Kenyan leading bank that targets microfinance sector. The headquarters are located at K-REP centre Kilimani area in Nairobi. The group was funded using a microfinance based facility to a tune of 1.5 million shillings to establish a bee keeping and honey production enterprise. They managed to pay back the loan through processed honey sales

Table 5.7: List of CBNRM groups in bee keeping

Sno	NAME OF GROUP	ACTIVITIES	LOCATION
KENYA			
1	Kanan bees Women group	Bee keeping	Longissa
2	Inaanyora Women group	Bee keeping	Malelo, Mara
3	Mara Discovery	Bee Keeping	Mara
4	Nasaru Ntomonok	Bee Keeping	Narok, Aitong
TANZANIA			
5	Serengeti Environmental and Cultural Association (SECA)	Bee Keeping	Serengeti

5.1.8 Mining initiatives

A few groups were engaged in mining activities for gold and sand harvesting (Table 5.8). Kilimapesa and Ildungisho community groups exploit gold at mining sites in Transmara. In Tanzania gold mining is carried out at Marenga village by Nyamieri mineral search group. Sand harvesting is carried out at River Mogor in Mara, but the groups are yet to register. There are environmental concerns surrounding exploitation of these resources e.g. use of mercury during the extraction of gold as a public health concern issue. Sand harvesting activities on the river beds destroys the breeding grounds for aquatic organisms including fish and encourages erosion of the river beds.

Table 5.8: List of CBNRM groups in mining

	NAME OF GROUP	ACTIVITIES	LOCATION
KENYA			
1	Kilimapesa	Gold mining	Transmara, Lolgorian
2	Olesentu	Sand harvesing	Mogor river
3	Ildungisho	Sand harvesing	Siana, Mara
TANZANIA			
4	Nyamieri Mineral search	Gold mining	Serengeti

5.2. GIS Mapping of CBNRM groups within the MSE

An attempt was made to map the identified CBNRM groups within the MSE using GPS / GIS techniques. Results indicate that most of the groups congregate around associated resources (Fig. 5.3); for example, in Transmara where forest covers abound including riverine forests. There were abundant CFAs. From maps generated and information reviewed, it was noted that ecotourism activities are located in areas inhabited by the Maasai due to cultural linkages to conservation.

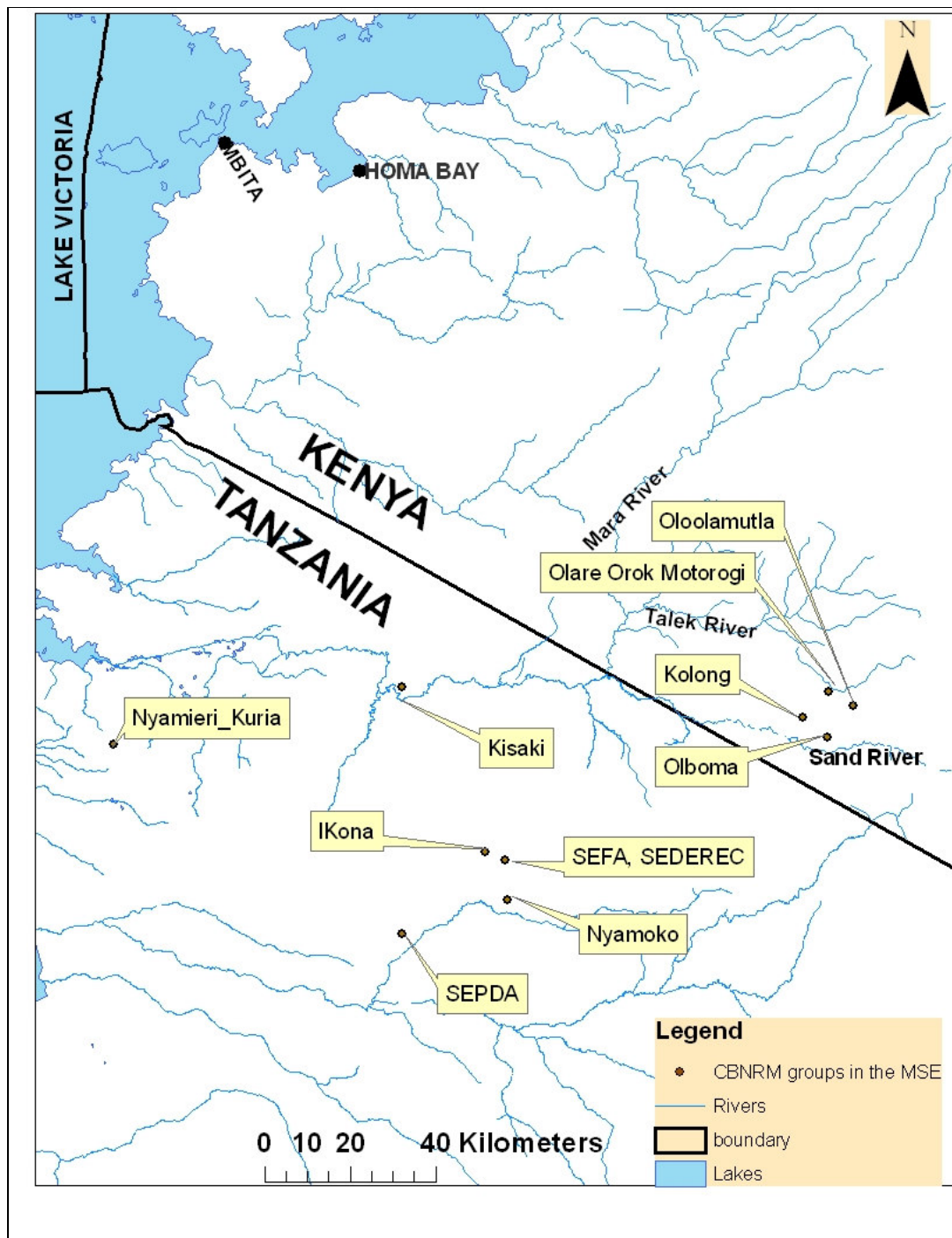


Figure 5.3: Map of the MSE showing location of some CBNRM groups sampled during the survey.

5.3 SWOT analysis of the CBNRM groups

A SWOT analysis of the CBNRM groups within the MSE was carried to identify areas of intervention to improve on efficiency and to achieve set targets.

5.3.1 Data analysis on CBNRM groups

This analysis is based on data from questionnaires, observations and interviews carried out during Focus Group Discussions (FGD) and with leadership of CBNRM groups as well as key informants. It

was intended to look at the strengths, weaknesses, opportunities and threats faced by CBNRM groups in the Mara-Serengeti ecosystem. Out of the total 25 CBNRM groups sampled in the rapid field survey 45.8% and 54.2% CBNRM groups were from Mara and Serengeti respectively. The analysis indicates that most groups have been in existence for periods ranging from 2 months to 5 years. However, a substantial number of the groups registered two years ago. There were a few groups formed 18 years ago in the Mara ecosystem (Kenya). 87.5% of the groups had registered with the relevant government bodies in the two countries. In comparison 90% of groups in Mara are registered while in Serengeti those who registered constituted 85% of the CBNRM groups captured during the study. The study indicated varied year of registration of CBNRM groups, ranging between 1 and 14 years.

Majority of the CBNRM groups in Mara-Serengeti ecosystem are composed of 15 members with the least number of members being 4. The study shows that most of the CBNRM groups are marginally dominated by men (52%), while women averagely constituted about 48% of all the groups. All the CBNRM groups reported that their officials are elected by all members of the groups.

An estimated 45.8% and 37.5% of CBNRM chairpersons and treasurers, respectively, possess at least primary school education as the highest academic qualification while 8.3% and 12.5% of the same officials never attended school. In 37.5% of the CBNRM groups, the treasurer had completed secondary school education while some of the officials were university graduates. It was noted that none of the CBNRM groups' officials had post graduate qualification (Table 5.9).

Table 5.9: CBNRM group officials and highest academic qualification level

Level of formal Education	Chairperson	Secretary	Treasurer
Primary	45.8%	29.2%	37.5%
Secondary	20.8%	37.5%	25.0%
Certificate	4.2%	12.5%	4.2%
Diploma	12.5%	8.3%	12.5%
Degree	8.3%	8.3%	0.0%
Postgraduate	0.0%	0.0%	0.0%
Never	8.3%	4.2%	12.5%

33.3% of the CBNRM groups had their meetings weekly and monthly, while only 4.2% had group meetings annually. During the field survey it was also noted that about 66.7% of the groups were formed to improve services to the community while others that constitute 4.2% were formed to facilitate contact between the local community and various agencies. When group members were asked to indicate the sources of funds to their organizations, 66.7% of the CBNRM groups reported that members contributed towards their activities, 41.7% were receiving funds from donor agencies while 4.2% confirmed having received funds from their central governments. The private sector and local/regional governments also funded 29.2% and 12.5% respectively of the groups surveyed. Out of the CBNRM groups interviewed during the survey, 50% operated on communal land. Forestry was the most preferred natural resource managed by the CBNRM groups at 45.8%, followed by wildlife and water at 41.7% and 20.8% respectively.

5.3.1.1 Forestry and forest management

The study indicates that 70% of CBNRM groups that engage in forest management prefer dealing with indigenous tree species and only 10% deal with exotic species. The remaining 20% are engaged in management of both indigenous and exotic tree species. 86.7% of the CBNRM groups benefitted from forest services and products. Among the groups that benefitted from forest products, 78.6% cited firewood as the main product derived from the forest. Forest was also managed by 64.3% and 57% to

provide medicine and building materials respectively to the populace. It was revealed that 35.6% of the CBNRM groups were managing forest for fodder and food. Majority (60% for each case) of the CBNRM groups also manage forests to protect water sources and provide habitats for wildlife whilst 53.3% of the groups manage forest as a means to control soil degradation.

With regards to weaknesses, 66.7% of the respondents identified limited knowledge as a major constraint followed by ownership issues among members at 33.3%. Among the respondents 20% cited limitation in access of the resource as constraints while 26.7% indicated that control of the resource was an obstacle to realizing their potential. 20% cited fire as their main challenge. The main opportunity that was identified by most of the groups (86.7%) was use of traditional methods in the management of forests. Use of forest as income generating activity and training group members were identified by CBNRM groups to be opportunities for improved forest resources both at 60%.

5.3.1.2 Water resources

Water resource types managed in the Mara-Serengeti ecosystem are boreholes, earth dams, springs, and rivers/streams. The study reveals that 20.3% of the CBNRM groups were involved in water resource management. 45.5% of those CBNRM groups that manage water resources preferred rivers/streams followed by springs at 27.3%. It was also noted that some of the groups from Mara and none in Serengeti managed piped water. A higher percentage (81.8%) manage water sources mainly for domestic use, 63.6% for livestock watering, 54% for fish farming, while 36.4% do so for wildlife survival. For the groups who manage water for domestic use, 90.9% confessed of not treating their water and those who treat do so by boiling. The main challenges to water resource management were water quality, quantity and knowledge on how to improve the management strategy. The CBNRM groups confirmed that the cause of water quality problems was the degraded catchment areas.

The main opportunity recognized by 90% of the groups was the use of traditional knowledge in the management of water resources. Use of water as an income generating activity and the training of group members were also identified by CBNRM groups to be opportunities for improved water resources management at 50% and 40% respectively.

5.3.1.3 Wildlife resources

The study shows that 41.7% of the CBNRM groups in Mara-Serengeti ecosystems were involved in wildlife management. The groups manage both conservancies and tourism at 50% and use wildlife as source of food (8.3%). None of the groups manage wildlife for sport hunting either in Mara or Serengeti. When the CBNRM groups were asked to give reasons why they are involved in management of conservancies, 50% answered that they are concerned since it is a source of income while 40% agreed that this is done as an empowerment mechanism, as communities participate in tourism decision-making processes and operations, another 40% consider this to be a source of skills and capacity development. Those groups (58.3%) that managed wildlife as tourism avenue benefited from it as an impetus for conservation, while 50% benefited as an empowerment mechanism, as communities participate in tourism decision-making processes. There were also 10% of the CBNRM groups who are involved in the management of wildlife for conservation to ensure continuity of biodiversity. The guiding principles for forming conservancy groups were varied: 58.3% indicated that their groups were guided by representative management committees whereas, 45.5% had their guiding principle revolving around constitution content and existence. Spatial boundary and defined membership were also guiding principles at 36.4% and 30%, respectively among the CBNRM groups.

The main challenges encountered by the CBNRM groups who are managing wildlife are human-wildlife conflicts and inadequate resources estimated at 54.5% and 54.2% respectively. Poaching was

also identified as a challenge by 50% of the CBNRM groups and was more pronounced in Serengeti than in Maasai Mara. Other challenges were also noticed as indicated in Table 5.10.

Table 5.10: Challenges to wildlife management in Mara-Serengeti Ecosystem

Challenges	Percentage (%)
Human-Wildlife conflict	54.5
Inadequate resources	54.2
Migration patterns	33.3
Lack of skills	33.3
Environmental factors	33.3
Fire out break	25
Poaching	50

The main cause of human-wildlife conflicts were development activities echoed by 54.2% of the CBNRM groups. The activities destroyed wildlife habitats thereby increasing human and wildlife proximity and causing competition for space and other resources. Population growth was also identified to be a driving factor for human invasion into wildlife habitats as was observed by 40% of the respondents. 30% of the CBNRM groups who participated in this survey blamed the attitude riparian populace have about wildlife, where carnivores in the wild are considered a threat, especially in Serengeti. 45.5% of the CBNRM groups reported that human-wild life conflicts had resulted into food insecurity whereas 36.4% noted that conflicts had caused loss of biodiversity. 36.4% and 18.2% of the groups indicated that the conflicts had consequences on socio-economic and safety issues respectively among the riparian communities. Different CBNRM groups mentioned various means through which human-wildlife conflicts can be mitigated. 45.5% proposed farm level crop planning methods where crops like chillies could be planted with other crops to keep wildlife away from destroying main crop types in the fields. Fencing of crop farms, the use of home made deterrents and compensation to farmers were mentioned by 36.4%, 18.2% and 18.2% of the CBNRM groups to be appropriate methods of reducing human-wildlife conflicts in that order. Cooperation between farmers and institutional change both were mentioned by 27.3% of the groups as means to mitigate conflicts.

The main opportunity identified by 54.5% of the CBNRM groups managing wildlife was use of traditional knowledge in resource management and at the same time 33.3% of the groups agreed that training is the best opportunity that exists in their midst. Use of wildlife as an income generating activity and as a link between communities and the government were also identified by CBNRM groups to be opportunities for improved wildlife resources management both at 27.3%.

During the field survey 84.6% of the groups indicated that they had developed a document that assists them to implement their activities and for these groups 69.2% were assisted by experts to come up with the group documents. It was again agreed by 84.6% of CBNRM groups that the above documents are used to guide the running of the groups' activities. However, for all the groups with project documents only 45.8% confirmed that all group members were conversant with the guiding/strategy document. When CBNRM groups were asked to approximate their level of achievement to the intended goal in terms of percentage, only 8.2% were of the opinion that they have made it to between 76-100%. 50% of the groups had achieved between 51-75%, while 16.7% had achieved between 0-25% and the rest achieved between 26-50%.

Under institutional linkages, 91.7% of the CBNRM groups involved other stakeholders in their project implementation cycles. The involvement process is undertaken at various stages of the project cycle. The field survey also noted that 75% of the CBNRM groups interviewed involved their partners at planning stages and 63.6% at the implementation stage. Involvements of stakeholders at the inception

and evaluation stages were done by 33.3% of the CBNRM groups. In addition, all groups interviewed confirmed that they planned for their group activities and 92.3% of the groups took into account gender issues during the planning process.

5.3.1.4 Group management

Management styles of the CBNRM groups were varied and members from 15.4% and 30.8% of the groups considered group management processes to be excellent and very good respectively, even as 53.8% showed that group management was good. The main problems identified by the group members on group management were lack of qualified personnel and political interference. Higher percentages (93.3%) of the CBNRM groups had well established monitoring and evaluation systems. In most cases monitoring and evaluation processes were carried out by selected group members and only 14.3% of the groups hired specialist monitoring and evaluation experts to lead the process (Table 5.11).

Table 5.11: Categories of people who carry out M&E in CBNRM groups

M&E involvement	Percent of CBNRM groups
Hired specialist	14.3
Group leaders	21.4
Selected group members	35.6
All group members	14.3
M&E specialist (member/staff)	14.3

CBNRM groups compile reports as part of the monitoring and evaluation process. Among the groups interviewed in the MSE 35.6% write reports on groups meeting and activities, while 21, 7% write reports on leaders' meetings and finally 7.1% groups have management plans in place. Majority of the CBNRM groups have drafted only 2 reports since their inception and there was a group that had compiled only one report.

5.3.1.5 Policy constraints in the CBNRM groups

The main policy constraints experienced by the CBNRM groups operating in Mara – Serengeti ecosystem were the existing policies on natural resources management which are not popular (41.7%), lack of specific policy implementers (21.4%), lack of power/capacity to enforce policies (21.4%) and conflicting policy intentions (46.7%).

Field interviews with CBNRM groups' leadership, village leaders, central and local government officials, and local political leaders confirmed the results which tally with the findings from the data analysis.

5.3.2 Results of the SWOT analysis

Based on the survey and data analysis, the following issues emerged:

5.3.2.1 Strengths

- a. A large number of groups (87.5%) in the MSE are registered by relevant authorities in the two countries with the legal standing (registration) of CBNRM groups dating back to 14 years ago. A substantial number registered in the last two years.
- b. Well articulated governance and management structures embedded in their constitutions.
- c. Application of traditional knowledge in environmental management practices.
- d. Committed leadership within the groups.
- e. Strong commitment by group members in contributing towards support of CBNRM groups' activities.

- f. Group membership ranged from 4 – 80 members with a mode of 15 members.
- g. It was evident that 15-member groups were most appropriate considering that there were varied activities carried out by the groups which require allocation of time by group members and that group members needed to dedicate only part of their time to group activities. On the other hand, effective management mechanisms for large groups may be difficult to attain. This fact is well documented in various literatures on CBNRM that have been reviewed.
- h. There was almost total gender parity in the sampled CBNRM groups except in groups with a bias for specific gender enrolment such as women groups dealing in basket and mat weaving.
- i. Traditional knowledge is greatly applied in CBNRM groups' management and implementation of activities especially in situations where the group leadership and members had low education.
- j. A majority of the groups had weekly and monthly meetings for all members.
- k. A high percentage (93.3%) of the CBNRM groups has monitoring and evaluation systems in place.

5.3.2.2 Weaknesses

- a. A large number of the groups are still at an early stage of development.
- b. There is low education level of key leaders in majority of the CBNRM groups with 30%-46% having primary level of education. Secondary education consists of 21%-38%.
- c. Inadequate awareness on NRM issues and best practices.
- d. Lack of skills in technical and basic management practices such as bee keeping and preparation of management plans.
- e. Lack of skills in Participatory Rapid Assessment (PRA).
- f. Inadequate or absence of operational and management guidelines.
- g. A weak financial base with heavy dependence on donor funding.
- h. Inadequate knowledge / information on key policies, laws, legislations and village by-laws.
- i. Weak institutional capacity.

5.3.2.3 Opportunities

- a. The governments of Tanzania and Kenya both lay emphasis on and support activities addressing the Millennium Development Goals (MDGs), MDG No. 7 in particular which addresses “environmental sustainability” and goal No.8, which seeks to “develop a global partnership for development”.
- b. World Water Vision (The Hague 2000) supports water conservation activities.
- c. Ramsar Convention which the two countries are signatories to can support designated sites which satisfy conditions for support.
- d. Convention on Biological Diversity (CBD) an outcome of the Rio summit held in Rio de Janeiro in 1992 which links biodiversity loss and human population and poverty. Communities dependent upon natural resources for their survival must be fully involved in all efforts to find solutions to address resource losses.
- e. Increased involvement of international stakeholders including governments, governmental agencies and NGOs like WWF, SNV FZS, Friends of Conservation (FOC), Tumaini Jema Serengeti Imapara, Narok Conservation and Wildlife Forum, Serengeti Environmental Professional Development Association (SEPDA), Conservation and African Conservation Centre, Serengeti District Council, World Concern, and World Vision, that offer training, capital and technical services.
- f. The East Africa Community initiatives including establishment of Lake Victoria Basin Commission offers opportunities for other stakeholders and governments (especially partner states) to engage the CBNRM groups.
- g. The Nile Basin Initiative generates information and develops initiatives with other stakeholders and governments that can be used to engage CBNRM groups for their benefit.

- h. Tanzania Vision 2025 with focus on sustainable human development. Opportunities exist for assistance from the Government and international agencies on initiatives that focus on sustainable human development as provided in vision 2025.
- i. The National Strategy for Growth and Reduction of Poverty, popularly known as ‘MKUKUTA’ in its Kiswahili acronym with priority focus on poverty reduction issues as well as sustainable environmental and natural resource development. The government will allocate resources both human and capital that can benefit the CBNRM groups
- j. Sectoral policies, laws, regulations and programmes. These empower the CBNRM groups through legal instruments to manage various natural resources.
- k. Local Government Reform Programme aimed at devolving administrative and financial powers to the local Government Authorities. The reform programmes are aimed to devolve power to the grass roots through the local government authorities.
- l. Increased involvement of national Civil Society Organisations in new activities. These provide advocacy forums for the communities.
- m. Recognition and strong support by the government structures at all levels.
- n. Strong networking and partnership relations both vertically with other organizations (government donor, NGOs) and horizontally among the CBNRM groups through best practices.
- o. Relevant business activities in line with existing natural resource base where investors partner with the local communities for mutual benefit.

5.3.2.4 Threats

- a. Climate change and global warming that has caused increasing environmental degradation leading to increasing drought.
- b. Uncoordinated initiatives involving a multitude of players operating mainly in an uncoordinated and competition basis.
- c. Conflicting sectoral policies and laws governing Natural Resource Management Issues.
- d. Increasing poverty
- e. Increasing competition in natural resource utilization especially land among many uses (agricultural expansion, livestock grazing etc).
- f. Conflicting donor priorities and funding modalities where by support from the donors is not sustained
- g. Political interference which is manifested when community views conflict with political interests
- h. Human wildlife conflict.
- i. National policies on environmental and mining sectors which tend to conflict each other on matters related to NRM.
- j. Sustainability since some projects cannot achieve their goals due to multiple factors such as lack of technical knowhow, dwindling resources and inadequate funding
- k. Heavy dependence by communities on natural resources as a source of livelihood.
- l. Environmental degradation.
- m. Tobacco farming along the Mara River bank in Serengeti District which is farmed along the river banks polluting the environment and causes deforestation through use of fuelwood for curing of the tobacco.

5.4 Capacity building needs of CBNRM groups

The areas identified as requiring capacity building in the short term for the CBNRM groups include the following:

- a. There is need to explore tenets of best practices from successful stories, locally, regionally and internationally through study tours.
- b. Training / clinic workshops for CBNRM groups to improve their skills on good management practices including financial and administrative management, conflict resolution mechanism, entrepreneurship, negotiation skills, fund raising and benefit sharing.
- c. Sensitization to raise awareness on the significance of environmental conservation and sustainable resource utilization.
- d. Training on livelihood skills; raising level of awareness of CBNRM members on policies, laws, legislations and village by-laws.
- e. How to integrate indigenous knowledge into the current practices on natural resources management and conservation.

CHAPTER 6: BEST PRACTICES IN CBNRM

The scenario on best practices is manifested in some of the CBNRM groups sampled. From the activities undertaken by these groups, various levels of success were noted. The SWOT analysis provides results of CBNRM groups interviewed using the structured questionnaires and key findings from key informant interviews. These results reflect successes within functions of interviewed CBNRM groups, where strengths / successes are considered in the evaluation of best practices. In keeping with the appreciative inquiry methodology, further field observations of case studies on the CBNRM groups, WMAs and conservancies visited; focusing on the key areas of devolution of power, economic benefits to the communities and impacts of conservation; initiatives provided examples of successful / best practices. The focus of these inquiries was on wildlife management, forestry and water resources.

6.1 Principles of CBNRM best practices

The criteria used to assess the CBNRM groups are derived from Alcorn *et al.* (2002). The main pillars of best practices in CBNRM are listed hereunder:

- Activities that stimulate favorable changes in environmental conditions
- Increased socio-economic benefits
- Improved governance
- Contributing to positive changes in behavior and wellbeing at the community level.

6.2 Case studies of best practices

6.2.1 The Olare Orok Conservancy

Summary description

This group, whose main activity is conservation of wildlife, was visited at their headquarters within the conservancy on August 19th; 2010. The conservancy covers an area of approximately 30,000 acres of land and borders the northern part of the Mara National Game Reserve. The land constituting the conservancies are community owned parcels that have largely been sub-divided into 150 acre parcels. Olare Orok Conservancy is an intriguing new conservation concept on land-use. Just three years old, it has set what is to become the blue-print for sustainability of the greater Maasai Mara ecosystem. It provides for natural resource conservation and pastoral land use practices that do not accommodate agricultural activities.

Powers devolved to the community

The management is operated through a board consisting of representation from the landowners, tourism partners and also in conjunction with donors who were instrumental in supporting the conservancy.

Powers retained by the state

There is control and protection of wildlife on the land by statutes and provisions that protect wildlife.

Benefits to the community

- The method of payment in the past was a bed night fee paid by safari operators to the Maasai which has since changed to payment of rent on a pro-rata basis per acre of land owned which is considered a fair way of distributing income to the landowners.

- These wildlife areas provide traversing rights to numerous safari camps and lodges, located within their boundaries. The occupants of these camps form the bulk of visitors to the eco-tourism sites eg cultural villages operated by the communities outside the conservancy area
- Hay is harvested at the end of the long rains (May/June) and stored outside the conservancy for community use during the dry months of September and October and also for the production of hay bricks as fuel.
- Success of the conservancy offers opportunities for provision of amenities such as schools, hospitals, domestic water supplies and road networks.
- Training facilities built from conservancy funds offer community members training in wildlife management, scouts and tourism guide eg the Koyiaki Guiding School
- Potential for other income generating projects exist on land that preserves the integrity of key wildlife corridors.

Key results

- Communities neighboring the conservancies have a traditional responsibility to monitor wildlife movement and resource use.
- Increased collaboration between communities and government authorities (Local government, KWS)
- There is a grazing plan operating in the form of management zone concept.

Conditions for success

- Negotiated access and regulated use of resources (eg pasture, water and forest products) during certain times of the year
- Maasai culture promotes environmental and wildlife conservation
- Joint land use planning between the conservancy and riparian communities
- Presence of facilitators (AWF, WWF, local NGOs, FZS)
- Presence of donors (Virgin Atlantic, Winrock safaris, IFAW)
- Continued government support and goodwill.

Lessons learned

- Value in having government support and goodwill.
- Value in having external facilitation
- Wise use of the resources eg alternative energy sources
- Good management of pasture
- Presence of fora for consensus building

Constraints

- NEMA moratorium preventing further development of hotels and lodges without Environmental Impact Assessments (EIA) since the area has many hotels and lodges. The conservancy proposes to increase bed capacity through further development in order to increase income.

6.2.2 Mara North Conservancy

Summary description

The headquarters of this conservancy which is located within was visited on August 19, 2010.

With land owned by individual Maasai families, the Mara North Conservancy continues to protect wildlife while benefiting the local communities. Mara North Conservancy is an example of partnership between the private sector and the local communities. Established in 2009, it focuses on promotion of the environment, wildlife and development of local community programmes. These programmes include provision of infrastructure such as roads and tracks, habitat restoration, enforcement of anti-poaching activities and the training of game wardens and rangers. The Mara North Conservancy also participates in resolution of human/wildlife conflicts as well as providing security for communities and camps as well as fundraising for the communities.

Powers devolved to the community

The conservancy is managed through a partnership between 10 member camps and over 800 local Masai landowners (Conservancy Land Owner Committee). The main aim is to create an incomparable conservancy with long term commitment to environment, wildlife and community. The powers devolved to the community include;

- The Conservancy's landowner Committee reports to all landowners for their final approval on any decisions regarding the management of the conservancy.
- Regular engagements between the land owners and the member camps with half-yearly full community meetings which enable landowners to direct activities.

Benefits to the community

- Over 800 Maasai landowners and eleven member camps benefit from conservancy initiatives which include; professional wildlife and land management, fixed lease fairshare agreements to protect the area, promotion of strong ecosound practices, controlled tourism with very low bed and vehicle density and fundraising for the local communities.
- Fixed lease agreements give the community the guaranteed income.
- Benefits of modern life such as healthcare clinics, schools and access to safe water Provision of security by the conservancy security team against attacks by wild animals, poachers

Key results

- Strong eco-tourism practices
- Restoration of natural habitats through reforestation projects

Conditions for success

- Transparency in management and equitable distribution of resources.
- Professional and consultative management plans.

Lessons learned

- Successful wildlife conservation incorporates partnership, land protection, professional management and the promotion of low-impact tourism.
- A well managed cattle plan, including designated grazing areas, and access to water points, are extremely important for the success of the conservancy.

Other issues

- Stability of this ecosystem by supporting conservation initiatives eg promotion of strong ecosound practices, controlled tourism with very low bed and vehicle density, alternative energy sources eg hay bricks
- Clearly spelt out long- and short-term objectives for planning, to help communities and investors.
- Not all Maasai community members have benefitted. Some members remain dissatisfied on the arrangements eg unequitable benefit sharing which favours the camp members
- Professional wildlife management is in place including security, anti-poaching, infrastructure maintenance and managed grazing.

6.2.3 Ikona / Robanda Community-Private Tour Operator Partnership

Summary description

This CBNRM group is based in Ikona, Serengeti District and is involved in a private tour operator partnership. It was visited within the village on August 18, 2010. The group members belong to the Robanda people who traditionally practice hunting and pastoralism. From a traditional perspective, the government wildlife protection was viewed with much hostility. There was therefore much conflict between the government protection polices of this natural resource and traditions of the Robanda who relied on the Serengeti resources for grazing, firewood collection, hunting and other traditional uses. CBNRM initiatives within this community have created awareness that natural resource use through tourism and commercial sport hunting offers greater value.

Powers devolved to the community

- The village officials have negotiated several agreements with tour operators to use village land.
- The village officials make decisions on use of revenue generated.

Powers retained by the state

The government decides on the yearly hunting quota allocation to the village.

Benefits to the community

- The community has benefited from improved amenities such as schools, health care, provision of domestic water, and food security.
- There is also evidence of improved living conditions through building better housing.

Key results

Awareness of village members of the benefits generated through CBNRM approaches (eco-tourism and commercial hunting) has resulted in reduced poaching.

Conditions for success

- Proximity of Robanda to the Serengeti National Park (SNP) offers advantages of existing infrastructure and easy accessibility to private tour operators.
- Ownership of land and other resources enabled negotiations with private tour operators on the use of village land and water for a fee.
- Decisions on the use of funds generated are vested in the community.
- Investment in infrastructure development such as bore holes and a grain mill are maintained sustainably by funds generated by the same projects.

Lessons learned

- There is need to strengthen the community's skills in governance systems and management.
- Land demarcation will assist in acknowledgement of village jurisdictions and limits.
- Training in negotiation skills and planning will assist to achieve long term objectives for the village.

Other issues

- CBNRM groups are not capable of administering the wildlife monitoring program due to the magnitude of the ecosystem and animal mobility. Intervention by Wildlife Division and TANAPA is essential.
- The quotas allocated for village hunting rights need to be expanded and made more flexible so as to allow hunting.
- Regular consultations and consensus building through community meetings can strengthen group activities.
- Apart from the Robanda Village Council, members' participation is limited. Central among the issues is revenue, which must be used with transparency when consensus is arrived at in members' meetings.

6.2.4 Kolong Cultural Village

Summary description

This CBNRM group is based in Mara Division of Narok South District in Kenya. It was visited on August 18, 2010. The group's core business is eco-tourism. However, there has been diversification to areas of bee keeping and bio-gas production. The group's main objectives are to provide services to the community geared towards meeting their social and economic needs. Formed 14 years ago this group is located on community owned land. Land close to the Maasai Mara National Game Reserve and is financed majorly from members' contributions. The group has strong collaboration with NGOs such as Friends of Conservation (FOC), government agencies and the local authorities. CBNRM initiatives within this community have created awareness of the importance and benefits of wildlife conservation.

Powers devolved to the community

- The community owns the land and decides on its uses.
- Direct negotiations /agreements with tour operators to use village land.
- The group officials make decisions on use of the revenue generated.

Powers retained by the state

The arrangement is such that tourists visit the parks and conservancies to see wildlife but in the spare time visit the cultural villages to learn the Maasai culture through dances and cultural lectures on the traditional Masai way of life. The tourists pay some fee for the entertainment. The custodian of wildlife is the conservancy and the Maasai Mara National Reserve and KWS.

Benefits to the community

- The community has built and improved a school.
- The community is being supplied with domestic water.
- The community has generated income and created employment for group members through entry charges to the culture villages' fee for dances, cultural lectures and sale of curios and

other traditional artifacts. The main employment created are in the areas of lectures, dances and curio stewardship.

- Improved living standards of some group members from benefit sharing through availability of cash flow for house hold requirements, education (build schools) , health and sanitation (constructed a borehole), increased livestock numbers (use the money generated from the culture village to buy young bulls and fatten them for later sales with profit).

Key results

- Due to minimal formal education, the group members mostly use traditional knowledge in the management of wildlife and development of eco-tourism products such as artifacts.
- Community elders sensitise the youth on potential benefits arising from protection of wildlife.
- Sensitization of group members on the handling of tourists for improved performance of the groups' objectives.
- Zero tolerance to poaching by the community.

Conditions for success

- Continued sensitization of community members on potential benefits arising from tourism and conservation.
- Ownership of land by the community allows diversification of activities such as bio-gas production.
- Decisions on the use of funds generated are vested in the community.

Lessons learned

- The group has the capacity to adopt new technologies despite lack of formal education of key group officials.
- The group could be strengthened by training in new skills of governance systems and management.

Other issues

- Incidents of human/wildlife conflict are occasionally reported.
- Regular consultations and consensus building through community meetings can strengthen group activities.
- Transparency in planning and expenditure needs to be strengthened.

6.3 Suggested conditions and related best practices of CBNRM groups

General findings on best practices

A number of important aspects of best practice have been deduced from assessing these CBNRM groups. These are highlighted in the following section.

a). Environmental management and biophysical aspects

The CBNRM groups have had an impact on community attitudes towards environmental management where operation sites have witnessed increased stability in wildlife, forestry, and water resources. The protection of springs and forests promotes healthy environments. Enhancement of appropriate techniques in land use management can be instigated by governments in response to social and economic incentives.

The conditions for success are:

- Communities must have the legal mandate to make key decisions on resource use, maintenance and improvement.
- Communities must own the resource
- Communities' management of resources should be governed by clearly understood by-laws.
- The government should, directly or through its agencies, provide support to communities.
- The government provides biophysical information on monitoring wildlife populations / ecosystems regularly to communities.
- Communities are technologically and managerially empowered to effectively manage the resources.
- Management, including planning processes is clearly spelt out in the community's agenda.

b) Socio-economic and financial aspects

CBNRM groups are reliable entities whose activities generate economic and social benefits. Funds generated from CBNRM have been used to plan, build and support amenities such as health facilities, schools and other public buildings. Funds generated from CBNRM have been used to leverage larger amounts of contributions from the government and development partners thereby reducing local contributions for public projects. Financial support is offered to needy students in form of bursaries and scholarships. Volunteer attitudes have gained prominence especially in areas of forest guards and game scouts. Communities obtain direct sustainable benefits in form of medicines, water, craft materials, building materials and firewood.

The conditions for success are:

- Benefits from CBNRM are incentives for behavioral change
- CBNRM implementation builds community cohesion
- CBNRM income is used to provide and improve social services
- CBNRM benefits and incomes increase to meet expectations during the initial period

c) Governance and institutional aspects

At the village level, traditional practices of administration have been in place, where gender perspectives and roles are clearly defined. The formation of CBNRM has overcome most of the traditional roles given to women thereby promoting progress in democratization and good governance in CBNRM management. It was noted that both genders are involved even when the core business of the CBNRM group is inclined towards the female gender. This was most prominent during regular meetings by members, where members make collective decisions on budget and expenditures.

The conditions for success are:

- Regular consultation of members on management of the groups
- Transparency in the use of funds and ensured benefits
- Adaptive planning and the capacity to independently make decisions

Alcorn *et. al.* (2002) note in their contribution to CBNRM best practices in Tanzania (on page 45 of given reference) that "there are some critically important enabling conditions that are yet to be fully established or widely applied. These include:

- Clarification and simplification of procedures for significant devolution of responsibilities, authorities and rights to community-based user groups, organizations and enterprises
- Reform of fiscal policies and progressive shifts in revenue sharing
- Literacy training, enterprise development training, and further capacity to promote increased access to capital (micro-credit, joint ventures) and to larger and more lucrative markets

- Promotion of the role of civil society and the media in advocacy and oversight related to CBNRM
- Strengthening of knowledge management, information dissemination, communication and environmental education activities
- Strengthening of adaptive research and extension efforts, particularly in the areas of land use and NRM planning, resource inventory and monitoring techniques, and procedures to ensure sustained yield harvesting and regeneration of natural resources
- Increased attention to policy research and institutional reforms, particularly with respect to issues related to the political economy of CBNRM, and establishment of appropriate checks and balances”

6.4 Summary of best practices noted among the CBNRM groups

- The CBNRM group has a constitution and acquires legal status through registration with appropriate authorities.
- The CBNRM group has clear and simple management systems including a strategic plan with clear vision and mission, organizational structure, operational and financial guidelines etc.
- The CBNRM group embraces a participatory planning approach based on participatory rapid assessment techniques involving members of the group.
- CBNRM group members understand well various government policies, laws, regulations, village by laws, etc.
- All CBNRM group members understand the roles and responsibilities of the group and play an active role in decision making, and the planning and implementation processes of its activities.
- There exists a forum for consensus building, joint decision making and conflict resolution.
- CBNRM group members appreciate and accept the legitimacy of NRM enforcement agents as well as fines that are imposed on wrongdoers.
- The CBNRM group banks all funds and shows transparency and accountability in the use of CBNRM group funds.
- Clear understanding of the connectivity between CBNRM group initiatives to village, district and national levels of natural resource management planning processes
- Embraces principles of good governance.
- Group members decide together in open meetings how they would like the revenue generated from group activities to be used.
- Embraces a culture of voluntarism to help some of the group project initiatives like patrols to guard any encroachment on natural resources.
- CBNRM groups have developed a well structured participatory basis for a benefit sharing framework in order to ensure equitable distribution of benefits.
- CBNRM groups not too large as not to be able to better manage their resources.
- Hold CBNRM group meetings more frequently and regularly to increase participation.
- Strict adherence to CBNRM management guidelines.
- Use of locally available resources and assets sustainably

CHAPTER 7: THE FORMATION OF TRANS-BOUNDARY CBNRM NETWORK / COMMITTEE

Trans-boundary natural resources management (TBNRM) is any process of collaboration across boundaries that increase the effectiveness of attaining a natural resource management or biodiversity conservation goal (van der Linde *et al.* 2001).

7.1 TBNRM guiding principles (Provided in van der Linde *et al.* 2001)

- TBNRM initiatives should be for the “people” the users, managers, and beneficiaries of the resources. Thus stakeholder involvement should occur at all stages of the process, particularly during decision-making.
- In addition to sustainable natural resource use, sustainable financing, human resources and institutions are necessary.
- The benefits of TBNRM must out-weigh the total costs of this lengthy and complex process. Efficiency is increased by building on existing resource management systems and institutions.

7.2 Issues for the TBNRM network in the MSE

The main issues to be tackled by the proposed TBNRM committee are:

- i.) Landscape management
 - Information sharing
 - Ecological management and monitoring
 - Wildlife corridors monitoring / management.
 - Monitoring of the impact of policy on the management of protected areas, WMAs and conservancies
 - Fire management
 - Multilateral support monitoring
- ii.) Support to conservation initiatives and communities
 - Development of community investment policies, institutional, political and policy environmental support

7.3 Suggested roles for the proposed TBNRM network/committee

The main roles and responsibilities of the trans-boundary natural resources management network/committee shall be:

- Development of management plans
- Monitoring progress of policy development
- Monitoring of the health of the natural resources (water, forests, land, wildlife)
- Monitoring community involvement and livelihoods
- Community capacity building and facilitating the adoption of technologies
- Facilitating the engagement of key stakeholders within and across national boundaries

7.4 The process of forming the TBNRM network / committee

7.4.1. Preliminary Stage

- a) Identifying and defining the boundaries that we expect the CBNRM groups to work across
- b) Taking an inventory of the existing CBNRM groups on each side of the border:
 - What are their visions?
 - What activities do they work on?
 - How are they organized: structures, systems, constitutions, by-laws, etc.?

7.4.2 Initiation Stage

c) Assessing and documenting the actual and potential consequences/impact of the groups' activities within and across the borders/boundaries.

Need to organize workshops at two levels:

- Within each of the two borders (e.g. within Kenya and within Tanzania) where the CBNRM groups come together and share experiences. At this workshop, the concept of trans-boundary collaboration will be introduced
- Bringing the representatives of all the CBNRM groups together (i.e. both Tanzanian and Kenyan groups) to discuss trans-boundary concepts. During this workshop or immediately after there is a need to organize exchange visits across the border so that the CBNRM groups can begin to appreciate the need to work together across national boundaries.

7.4.3 Negotiation Stage

The groups are facilitated to formulate a negotiated framework for the management of the trans-boundary network:

- What will the network look like: the structure?
- How do the individual CBNRM groups become part/members of the network?
- What is the *modus operandi* of the network?
- The management of the network: formation of a committee to manage the network
- Defining the mandate of the committee and identifying how the capacity of the committee can be strengthened

7.4.4 Planning, Implementation and Monitoring Stage

This stage will involve a number of activities:

- Developing a trans-boundary strategic plan
- Developing action plans for activities within each country and for activities across the boundaries
- Developing a monitoring and evaluation (M&E) framework
- Implementing and monitoring planned activities

7.5 Guidelines for engagement of WMAs and conservancies

7.5.1 Aim and Scope of the guidelines

Wildlife and ecotourism, two closely interlinked investment areas, are important for the livelihoods of millions of people living adjacent to the parks. However, local communities living adjacent to these wildlife areas bear a lot of costs arising out of, for example, loss of life, crops and livestock, diseases, and loss of opportunities to develop their land. Interest in management of these areas extends beyond these most affected communities. The central and local governments, NGOs, regional and international organizations, governmental agencies and other stakeholders have an inherent role to play in the management of these areas. The guidelines for engagement of WMAs and conservancies aim to bridge the gap between local communities organized to manage these wildlife resources (CBNRM) and the responsible body and other interested parties.

The guidelines have been developed specifically to strengthen the communities' role in the management of wildlife resources. Ultimately these guidelines aim at providing more sustainable wildlife resource use and improvement of adjacent community livelihoods.

7.5.2 The structure of the guidelines

The guidelines comprise the rationale for and use of the TBNRM approach for managing the wildlife resources in the MSE. It outlines the roles and responsibilities of the main stakeholders and gives the guiding principles of engaging in and managing trans-boundary natural resources. The step by step TBNRM process is given, showing the importance of each step and why the users of the guidelines must follow them. In the two countries, the management of wildlife resources is implemented using two different approaches: the WMAs and conservancies, both borrowing from the concept of TBNRM. These guidelines provide for both approaches.

7.5.3 Target groups for the guidelines

The guidelines are a template to be used by various bodies with vested interest in the management of wildlife resources within the MSE. They are based on existing structures and mandates of WMAs and conservancies within this ecosystem. Some of the bodies that could use these guidelines are:

- Conservancies that focus on wildlife and environmental conservation, where communities have partnered with tour camp operators
- WMAs responsible body focusing on conservation of wildlife, where communities form agreements with investment partners to manage both the wildlife and the environment with benefits accruing to neighbouring communities.
- Local Authorities: The various levels of local governments, district and county councils and village councils who are vested with authority to manage wildlife resources in the SME.
- Regional bodies such as Lake Victoria Basin Commission (LVBC) who may promote and direct transboundary management of wildlife resources.
- Intermediaries (CSOs, CBOs, NGOs, Projects, Sector organizations/individuals) that may act as awareness raisers, brokers, facilitators or service providers to local communities who may wish to organize themselves for managing wildlife resources.
- Development partners
- Government agencies (KWS, TANAPA, SENAPA, KFS, WRMA)
- Other CBNRM groups.

7.6 Rationale for use of transboundary collaborative management in the MSE

CBNRM is one approach that can be used to achieve more efficient management of wildlife resources as state management is no longer politically or economically viable. In Kenya and Tanzania, the concept has been used to move away from the park system (complete government control) to participatory approaches that involve all stakeholders. Within the MSE there are CBNRM groups involved in management of various resource types mainly water, forests and wildlife. Data obtained from this study, key interviews, observations and available literature focusing on lessons learnt in South Africa, Botswana, Namibia, Mozambique, Lesotho and South east Asian countries provide information on roles and interactions that form these guidelines.

The reasons for using TBNRM approach in the Mara and Serengeti ecosystems include:

- The fact that the parks and reserves can only be adequately managed if there is co-operation from the adjacent communities.
- The need to overcome conflict with the neighboring communities.
- The need to create opportunities for the locals to contribute towards conservation and sustainable use of the resources in order to reduce the cost of management.
- Awareness that the MSE is a very valuable ecosystem for survival of the people and the wildlife and a contributor to the economy of the two countries.
- Awareness that it can reduce poverty through various conservation activities such as ecotourism, bee keeping, and water resources management.

- Move towards participatory approaches and decentralized governance in natural resource management.

7.7 Roles and responsibilities of main stakeholders

- a. Governmental agencies including KWS, TANAPA, KFS, WRMA, NEMA may initiate the process of engagement through raising awareness about CBNRM, guiding as well as providing information and support.
- b. Relevant government ministries concerned with mines and geology, water, environment, wildlife, agriculture, social services, local authorities, Attorney General's office, land and tourism. These will provide security, biophysical information derived from monitoring populations in the ecosystem at a larger scale and provide for the TBNRM concept for the MSE in its policies and regulations thus providing an enabling environment for engagement.
- c. Village Councils will negotiate on behalf of the TBNRM groups on land and resource uses, planning and implementation of the initiatives.
- d. District councils will provide guidance on land use and licensing as well as technical support on laws, policies and regulations.
- e. Local Authorities will provide the bylaws and security and monitor resource use
- f. Conservancies will manage the resources to benefit the local communities in line with the set objectives, plans and agreements.
- g. WMA will manage the resources to benefit the local communities in line with the set objectives, plans and agreements.
- h. Regional bodies such as **LVBC** will spearhead the engagement and formation of CBNRM groups in the management of transboundary resources of the MSE.
- i. Intermediaries (CSOs, CBOs, NGOs, and Projects, Sector organizations/ individuals) will sensitize communities and popularize the CBNRM concept as a management tool for the MSE. They will also give support in technical, financial and administrative aspects.
- j. Development partners will provide technical support and capital to support investments.
- k. Local communities may participate in the management and legal use of the natural resources as members of CBNRM groups or otherwise.

7.8 The process of engaging CBNRM groups in TBNRM areas

The process of engaging the CBNRM groups in TBNRM process will be participatory, spearheaded by the TBNRM network/ committee and the representative team (Figure 7.1). The process of engagement by LVBC shall be through the TBNRM network that will in collaboration with other stakeholders and interested parties develop the rules of engagement and agreements.

The interests and approaches of the CBNRM groups in Maasai Mara may vary from those of the WMAs in the Serengeti and it would be important to make the engagement as participatory and interactive as possible involving the communities and the other stakeholders at each stage. The Transboundary Mara Water Users Forum should be included in the TBNRM committee and in the representative team so as to shed light on the lessons learnt in managing water which is a major resource here.

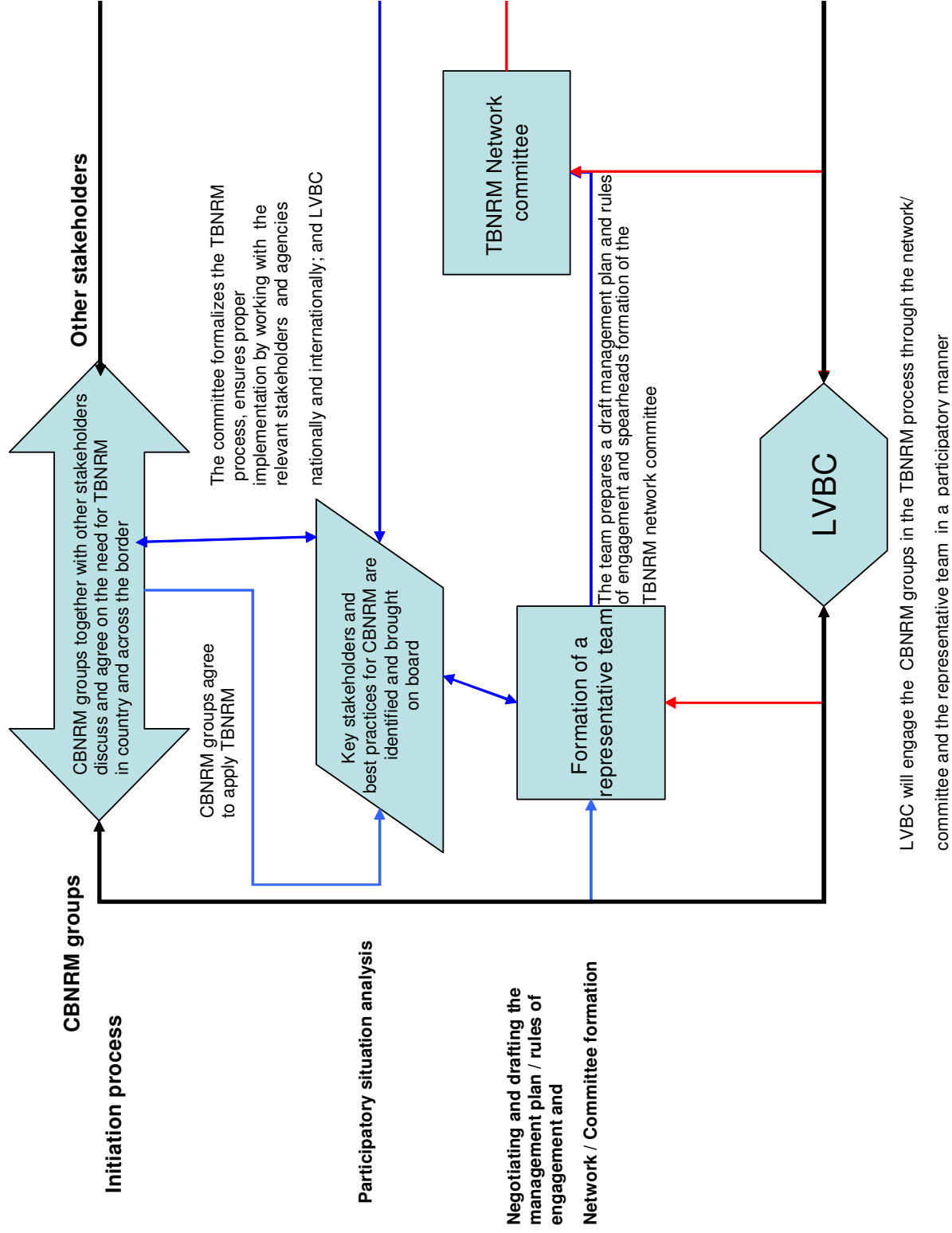


Figure 7.1 Engagement Process of CBNRM groups within the MSE

Lake Victoria Basin Commission

SUMMARY OF KEY FINDINGS AND RECOMMENDATIONS

Summary of the findings

Within the MSE, there were a total of 26 active groups identified in water resources, 24 in eco-tourism, and 12 groups in wildlife conservation. Forestry sector had 22 groups, bee keeping had 4 groups, while landuse groups were 9. In the energy sector, there were 3 groups while in mining, 2 groups were identified.

45.8% of CBNRM officials had primary school education or no formal education (8.3%) indicating that traditional systems played a major role in management of natural resources. Forest management sectors faced challenges occasioned by limited technical knowledge (66.7%) and ownership (33.3%). The Water resources challenges manifested in poor water quality and inadequate quantity were caused by limited knowledge on how to plan and implement management strategies addressing degradation of catchment areas. The main challenge in wildlife resources management was human-wildlife conflict. The main policy constraints facing the CBNRM groups were the limited acceptance of the existing policies, lack of specific policy implementers, lack of power to enforce the policies and conflicting policy intentions.

SWOT analysis on the existing CBNRM groups identified weaknesses in the financial base reflecting a heavy dependence on donor funding, inadequate information on key policies, laws, bylaws and regulations. Major opportunities included a diversity of abundant natural resources, available land-use options, rich cultural and social environment and improved collaboration with the government and private sector. The main threats are global warming/ climate change, diseases and epidemics, competition in resource utilization, conflicting sectoral policies and laws, group sustainability, poverty and environmental degradation. Best practices were noted in the areas of benefit sharing, governance structures and environmental protection.

The formation process and functions of a trans-boundary NRM committee focusing in wildlife management is proposed, taking into consideration variation of policies and approaches. A proposed CBNRM network will tackle transboundary issues related to wildlife such as poaching, migration of wildlife and fires.

Transboundary guidelines for engagement of WMAs and Conservancies are proposed based on the guiding principles of CBNRMs such as benefit sharing arrangements, size of group and the decision making process.

Recommendations

The main recommendations of this study for making the CBNRM groups robust are that there is need to:

- Support CBNRM groups create networks at Trans boundary level on NRM issues to enhance sharing of information and experiences on best practices.
- Carry out training, clinic workshops for CBNRM groups to improve their skills on good management practices including financial and administrative management, conflict resolution mechanism, entrepreneurship, negotiation skills, fund raising and benefit sharing.
- Carry out sensitization to raise awareness on the significance of environmental conservation and sustainable resource utilization.
- Explore best practices from successful stories, locally, regionally and internationally through study tours/exchange visits.
- Sensitize villages on the principles and importance of cost sharing (needs and advantages) to contribute more resources (cash and in kind) to various services (e.g. monitoring and

enforcement) that are seen as essential to the long term sustainability of management efforts.

- Strengthening indigenous traditional knowledge (ITK) practices and adoption of new technologies in natural resources management.

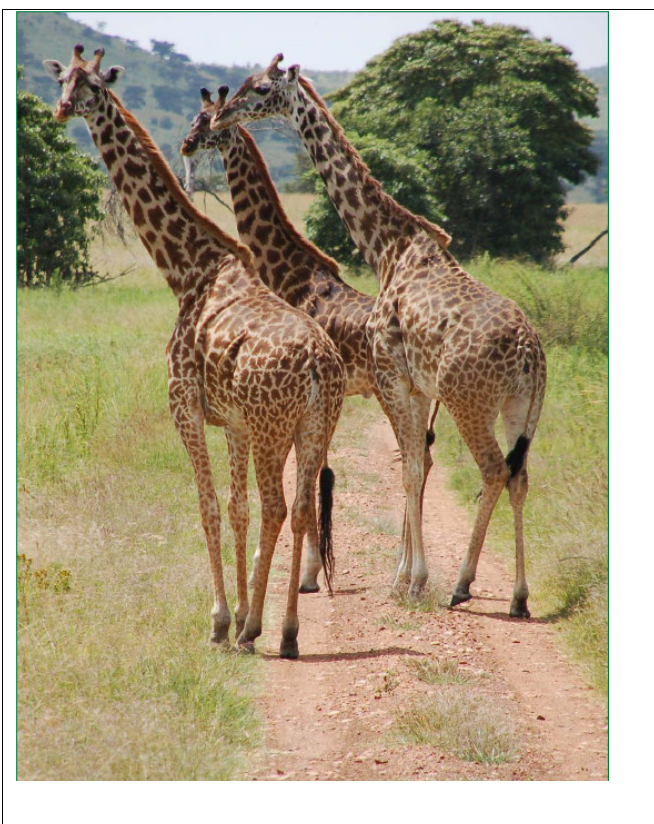


	
<p>Wildlife within the MSE. (Source- Thirgood S.,2004)</p>	<p>Forest, water and wildlife interactions. (Source- Thirgood S.,2004)</p>
	
<p>Successful eco-tourims CBNRM groups within the MSE</p>	<p>Successful water resource management initiatives within the MSE</p>

Figure 7.2 Some of the natural resource management activities in the MSE

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APPENDIX 1: TERMS OF REFERENCE FOR THE STUDY

PROMOTING COMMUNITY BASED NATURAL RESOURCES MANAGEMENT IN MASAI MARA AND SERENGETI ECOSYSTEMS

1. Introduction

Background

The East African Community/ Lake Victoria Basin Commission (LVBC) have received funds from the USAID (East Africa Office) to support sustainable development of the Mara River Basin. The project is implemented by both the Republic of Kenya and the United Republic of Tanzania. It is coordinated by LVBC Secretariat and implemented by key stakeholders in the Mara River Basin.

The overall objective of the project is to promote harmonized Mara River Basin management practices for sustainability. The specific objectives are to:

- (a) Promote trans-boundary management framework for Mara River Basin
- (b) Improve protection and management of Mau forest resources and Mara riverine forests
- (c) Promote improved management of protected areas of Maasai Mara - Serengeti ecosystem
- (d) Improve water resources management in the basin
- (e) Build institutional capacity of the Lake Victoria Basin Commission to undertake its regional mandate

Need for consultancy

The Mara River Basin (MRB) is rich in fauna and flora. These natural resources contribute significantly as sources of food and income to about 1.3 million people in the Mara River Basin and to the economies of the two countries. The management of these resources depends very much on the management framework in place and involvement of the key stakeholders and especially local communities around the protected areas. A number of Natural Resources Management (NRM) institutions exist in Mara River Basin. However their efforts are not coordinated and capacity not well known.

1. Objectives of consultancy

General objective

The overall objective of this consultancy is to promote community based natural resources management in the Maasai Mara - Serengeti ecosystem.

Specific objectives

- iv. Conduct an inventory and SWOT analysis of CBNRM groups
- v. Prepare guidelines for engagement of CBNRM groups (WMAs and Conservancies)
- vi. Identify, document and replicate CBNRM best practices

2. Scope of the consultancy

The consultant(s) will conduct an inventory and a SWOT analysis of CBNRM groups, prepare guidelines for engagement of CBNRM groups (WMAs and conservancies) and identify, document and replicate best practices in the Maasai Mara - Serengeti ecosystem.

3. Tasks of the consultancy

The tasks of the consultancy will include, but not limited to the following:

- b) Conduct an inventory and SWOT analysis of CBNRM groups by:
 - Mapping of the existing CBNRM groups
 - Carrying out the SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis of the CBNRM groups
 - Identify the capacity building needs of CBNRM groups
 - Propose a Transboundary NRM Committee network including their roles and responsibilities
- c) Prepare transboundary guidelines for engaging CBNRM groups (WMAs and conservancies)
- d) Review on-going CBNRM initiatives in the Maasai Mara - Serengeti ecosystems and elsewhere; and
- e) Identify and document best practices for replication

Outputs and deliverables

The Study should deliver the following outputs:

- (a) An inventory report of CBNRM groups
- (b) Guidelines for engagement of CBNRM groups (WMAs and Conservancies)
- (c) A report on CBNRM best practices

4. Timing and contracting

The Draft report for discussion is expected within 20 consultancy days. The final report should be produced not later than 31st August 2010

5. The consultant team

The study will require a consultancy firm with a team of specialists having the following skills and experience:

- (a) The Team Leader shall have a post graduate degree in social sciences with professional experience in CBNRM of at least five years.
- (b) Other team members must have post graduate degrees in Forest Management, Water Resources, Wildlife Management and Land Use; and
- (c) The team members must demonstrate working experience of at least five years with multi-stakeholders, institutions; and interactions with the local institutions, protected area managers, local leaders, politicians and policy makers.

6. Reporting

The consultant firm will report to the Executive Secretary, LVBC but on a day to day basis work closely with the Deputy Executive Secretary (Projects and Programmes).

The consultant(s) will be required to produce the following:

- i. Inception report to be delivered seven days after the date of signing the contract
- ii. Draft Report to be delivered three weeks after presentation of the inception report
- iii. Final report to be delivered two weeks after submission of the draft report
- iv. All reports will be submitted in six hard and a soft copy in a CD.

APPENDIX 2: THE MAIN QUESTIONNAIRE

MARA-SERENGETI ECOSYSTEM (MSE) COMMUNITY BASED NATURAL RESOURCE MANAGEMENT ASSESSMENT TOOL- QUESTIONNAIRE

SECTION 1: BACKGROUND INFORMATION

1. Name of the CBNRM group_____

2. The name of operation area of the CBNRM group

1) Mara

2) Serengeti

3. How many years ago was the group formed? (Write the number of years)_____

4. Has the group been registered with relevant institution/authority? (Access constitution)

1. Yes

2. No

5. If yes in Q 4 how many years ago was the group registered (Write the number of years)

6. How many registered members exist in the group? (Write the number)_____

7. Among the registered members, how many are Male (M) and how many are Female (F)?

M=_____ F=_____

8. How do you choose the officials?

1. Elected by all the members

2. Nominated by the politicians

3. Do not know

9. Indicate the highest qualification of the following group leaders

S/No	Position	Highest qualification
1	Chairperson	
2	Secretary	
3	Treasurer	

1=Primary 2=Secondary 3=Certificate 4=Diploma 5=Degree 6=Post graduate
7=Never

10. How often do you meet as group members?

1. Weekly 2. Fortnightly 3. Monthly 4. Quarterly 5. After 6 months 6. Annually

7. *Ad hoc*

11. What was the main **REASON** for forming the group?

1. To improve services for the communities
2. To reinforce a common identity and give individuals a sense of belonging
3. To liaise with statutory and voluntary agencies as representatives
4. To facilitate contact between the local community and agencies
5. To address the social and economic needs of the community in a given area
6. To address the environmental needs of the community in a given area

12. What are the current group activities?

13. What is your **MAIN** source of funding? (**Multiple responses is possible**)

- a) Members contribution
 - b) Central government
 - c) Local government
 - d) Private organizations
 - e) Donor agencies
 - f) Others
- (Specify) _____

14. What is ownership status of the land where you operate?

1. Communal
2. Private
3. Gvt. Owned

15. What is your field of operation? (**Multiple responses is possible**)

- 1) Forestry
- 2) Water Resource Management
- 3) Wildlife conservation
- 4) Others specify _____

16. Which organizations does your group collaborate with? (State the type of group e.g., Local groups, NGOs, Central Government) and indicate whether the group is local, regional, national or international)

INSTRUCTION: In sections 2, 3 and 4 deal with fields of operation mentioned in question 16.

SECTION 2: FOREST RESOURCES MANAGEMENT

17. What type of forest tree species are you managing?

- 1) Indigenous
- 2) Exotic
- 3) Both 1 and 2 above

What are the key tree species (At most five-in order of importance?)

18. What are the reason(s) for managing the forest resources? **(If the answer is 2 go to Q20)**

1. Products 2. Services 3. Both 1 and 2

19. If the answer in Q18 is 1, what products do you obtain from the forest?

1. Fuel wood 2. Building materials 3. Medicine 4. Fodder 5. Food products 6. Others
(specify)_____

20. What services do you derive from the forest? **(Multiple responses is possible)**

- a. Soil conservation b. Water conservation c. Home to wildlife d. Sacred sites e.
Recreation/aesthetic

21. Where do you encounter challenges in pursuit of managing forest resources? **(Multiple responses is possible)**

- a. Ownership b. Control c. Access d. Limited knowledge e. Fire out break

22. What are the existing opportunities for managing forest resources in your area? **(Multiple responses is possible)**

- a. Use of traditional knowledge in management
b. Create link between communities and state
c. Income generation and poverty alleviation
d. Training the CBNRM group members
e. Carbon trading
f. Payment for ecosystem services
g. Others specify_____

Go to section 5

SECTION 3: WATER RESOURCES MANAGEMENT

23. What type of water resource are you managing?

- 1) Borehole
2) Earth dam
3) Spring
4) Piped water
5) River/stream
6) Others(specify)_____

24. What are the reason(s) for managing water resources?

1. Domestic use 2. Crop production 3. Livestock watering 4. Wildlife 5. Fish farming
6. Others (specify)_____

25. If water is used for domestic purposes, is it treated?

1. Yes 2. No

26. If your answer in Q25 is No, how do you make your water safe for drinking?

1. Boil it 2. Filter it 3. Apply chemical (water guard) 4. Use herbs 5. Do nothing 6.
Others (specify)_____

27. How do you sustain the water sources?

28. What challenge(s) do you encounter in managing water resources in your area? (**Multiple responses is possible**) If the answer is **b**, you go to Q29

a. Inadequate quantity **b.** Poor quality **c.** Restricted access **d.** Inadequate knowledge

29. If answer in Q24 is **a**, what is the **MAIN** cause?

1. Degradation of catchments areas 2. Unreliable rainfall 3. Abstraction

30. What is the **MAIN** cause for poor water quality?

1. Livestock watering 2. Interference from wildlife 3. Poor farming practices upstream; 4. Degradation of catchments areas

31. What are the existing opportunities for managing water resources in your area?

1 Use of traditional knowledge in management
2 Create link between communities and state
3 Income generation and poverty alleviation
4 Training the CBNRM group members
5. Others Specify _____

Go to section 5

SECTION 4: WILDLIFE RESOURCES MANAGEMENT

32. What are the reason(s) for managing wildlife resources?

1. Conservancy/WMAAs 2. Tourists' attraction 3. Source of food 4. Sports hunting
5. Others (specify) _____

33. If answer in Q32 is **1**, what are the benefits to the group? (**Multiple responses is possible**)

a) Income and employment
b) An impetus for conservation
c) An empowerment mechanism, as communities participate in tourism decision-making processes and operations
d) Skills and capacity development
e) Others specify _____

34. What are the guiding principles for your conservancy group? (**Multiple responses is possible**)

a) Defined membership
b) Representative management committee
c) Legally recognize constitution
d) Defined boundaries
e) Others specify _____

35. If tourism is the **Main** reason of Wildlife Management Association, what are the benefits to the group? (**Multiple responses is possible**)

a) Income and employment
b) An impetus for conservation

- c) An empowerment mechanism, as communities participate in tourism decision-making processes and operations
- d) Skills and capacity development
- e) Others specify _____

36. What challenge(s) do you encounter in managing Wildlife resources in your area? (**Multiple responses is possible**)

- a) Human-Wildlife conflict
- b) Inadequate resources
- c) Migration patterns
- d) Lack of skills
- e) Environmental factors
- f) Fire out break
- g) Poaching
- h) Others specify _____

37. If the answer in Q36 above is **a**, what are the main causes of Human-Wildlife Conflicts? (**Multiple responses is possible**)

- a) The requirements of human development
- b) Migration of peoples for reasons of security or food safety
- c) Specific activities
- d) Attitudes and perceptions
- e) Habitat factors/environmental
- f) Increased human population

38. What are the consequences of Human-Wildlife Conflicts?

- a) Safety issues
- b) Food insecurity
- c) Economic and social costs
- d) Biodiversity loss

39. What are the ways of mitigating Human-Wildlife Conflicts?

- a) Farm level crop planning
- b) Home made fencing
- c) Home made deterrents
- d) Co-operation between farmers
- e) Institutional change and HWC
- f) Compensation

40. What are the existing opportunities of managing wildlife resources in your area?

1. Use of traditional knowledge in management
2. Create link between communities and state
3. Income generation and poverty alleviation
4. Training the CBNRM group members
5. Others Specify _____

Go to section 5

SECTION 5: Guidelines for engagement of WMAs and Conservancies

41. Have you developed a document that assists the group to implement its activities? (Strategic plan, action plan, work plan, management plan, work schedule etc.)

1. Yes 2. No

42. If yes in Q41 above, who prepared the document

1. Members led by expert
2. Group leaders
3. Identified consultant
4. Donor agency
5. Collaborator
6. Private organization

43. Is the document mentioned in Q42 above followed in running the group activities?

1. Yes 2. No

44. If the answer in Q43 above is yes, are all group members conversant with its content?

1. Yes 2. No

5. Rank achievement of your group activity base on the expected out put

1. 0-25% 2. 26-50% 3. 51-75% 4. 76-100%

46. As community group do you involve other stakeholders in your implementation cycle?

1. Yes 2. No

47. If the answer in Q46 above is yes, at what stage do you involve them?

1. At inception 2. Planning 3. Implementation 4. Evaluation
5. At utilization

48. How do you plan for your group activities?

- 1) Involve all members
- 2) Done by leaders
- 3) Done by donor
- 4) Do not know

49. During your planning session do you provide for gender considerations?

1. Yes 2. No

50. If yes in Q49 above, how do you provide for gender balance during the planning?

51. To what level are members satisfied with the financial management of the group

1=Excellent 2=V.Good 3=Good 4=Satisfactory 5=Fair 6=Poor

52. If your answer in Q 51 above is 4, 5 or 6, what are the **MAIN** reasons?

- a) Mismanagement by leaders
- b) Lack of qualified personnel
- c) Political interference
- d) Others specify_____

53. Is there existing Monitoring and Evaluation (M&E) system established in your group's activities implementation process?

- 1. Yes
- 2. No

54. If your answer in Q53 above is yes, who carries out the process?

1. Hired specialist; 2. Group leaders, 3. Selected group members; 4. All group members; 5. M&E specialist (member/staff)

55. What kind of activities do you write reports on?

1. Members meetings 2. Leaders meetings 3. Implementation activities 4. Implementation outputs 5. Implementation outcomes 6. Evaluation 7. Management plan

56. Since the inception of the group activities, how many reports have you developed? (Write the number)_____

57. What policy constraints do you experience in your group operation?

- 1. Non popular existing policies on natural resources management
- 2. Lack of specific policy implementer
- 3. Lack of "biting" power to enforce policies
- 4. Conflicting policy intentions

58. How do you resolve wildlife-human conflicts?

APPENDIX 3: THE FGD QUESTIONS

MARA-SERENGETI ECOSYSTEM (MSE) COMMUNITY BASED NATURAL RESOURCE MANAGEMENT ASSESSMENT TOOL- FOCUS GROUP QUESTION GUIDE / KII-Groups

1. What was the main reason(s) for forming the CBNRM group?
2. What are the current group activities
3. What is your registration status (*Probe legal status*). For those who have registered how rigorous was the registration exercise
4. What are the benefits gained from an existing CBNRM group?
5. How did you achieve the benefits?
6. How do you share the benefits
7. What are the challenges facing the group?
8. How can these challenges be addressed?
9. What do you think you have not performed better based on your earlier set goals?
10. What are the policy constraints that you experience in your group operations?
11. How are the policy constraints faced by the group solved?
12. What are the mechanisms in place to involve vulnerable/marginalized groups (Women, Disabled, Elderly persons, Youth)?
13. How are you able to strengthen/enhance achievements of your group?
14. Organogram showing the management structure and involvement of gender.

APPENDIX 4: QUESTION GUIDE FOR KEY INFORMANTS
MARA-SERENGETI ECOSYSTEM (MSE) COMMUNITY BASED NATURAL RESOURCE
MANAGEMENT ASSESSMENT TOOL

QUESTION GUIDE FOR KEY INFORMANTS (KII)

1. Do you have any CBNRM in your area?
2. Who are the key players in NRM in your area?
3. Which are major sectors hosting them
4. What are the existing legal, institutional frameworks and policies on NRM
5. What are the policy constraints to NRM?
6. How do CBNRM contribute to NRM
7. What challenges do you face in implementation of NRM policies and legal frameworks

**APPENDIX 5: LIST OF OFFICIALS CONTACTED FOR FOCUS GROUP
DISCUSSION (FGD)**

	NAME/POSITION	ADDRESS	ECOSYSTEM
1	Dorothy Syallow Masiga Programme Officer	WWF P.O. Box 447, Narok Tel. No. + 254-720712051 Email: Dmasiga@mara.wwfearpo.org	Mara
2	Mr. Francis M. Nkako Policy Officer	WWF P.O. Box 447, Narok Tel. No. + 254-720712051 Email: molenkako@gmail.com	Mara
3	Mr. Kennedy Onyango Technical Manager	Mara River Water User Association P.O.Box 101, Oloomirani Tel. No. +254728336090 Email: kbonyango@yahoo.com Mrwua2010@yahoo.co	Mara
4	Moses Ziro Programme Officer	East African Wildlife Society Tel. 0721 114958 Email: ziro@eawildlife.org	Mara
5	Mr. Samuel A. Gor Sub-regional manager	Water Resources Management Authority P.O.Box 3701, Kisumu Tel. No.+254733991531 Email saagorke@yahoo.com	Mara
6	Dr. Margaret Abira Regional Manger	Water Resource Mangement Authority P.O. Box 666 – 40100, Kisumu Tel. No. +254722721834 Fax No. +254 (0) 57 2025494 EMAIL. Mabira59@yahoo.com	Mara
7	Mr. James Sindiyo Chief Warden	Narok County Council P.O. Box 60, Narok Tel. No. +254 – 722784193 Email: sindiyojames@yahoo.com	Mara
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